

# URS OPERATING SERVICES

1099 18<sup>TH</sup> STREET  
SUITE 710  
DENVER, COLORADO 80202-1908  
TEL: (303) 291-8200  
FAX: (303) 291-8296

January 25, 2010

Ms. Joyce Ackerman  
EPA On-Scene Coordinator  
U.S. Environmental Protection Agency, Region 8  
Mail Code: 8EPR-ER  
1595 Wynkoop Street  
Denver, Colorado 80202-1129

**SUBJECT: START 3, EPA Region 8, Contract No. EP-W-05-050, TDD No. 0909-08  
Analytical Results Report For Phase II ESA – Wheat Ridge 7100/7150 West 38<sup>th</sup> Avenue  
Targeted Brownfields Assessment (TBA) Wheat Ridge, Jefferson County, Colorado**

Dear Joyce:

Attached is one copy of the final Analytical Results Report for the Phase II Environmental Site Assessment (ESA) for the Wheat Ridge 7100/7150 West 38<sup>th</sup> Avenue TBA, Wheat Ridge, Jefferson County, Colorado. Per your request two copies of this report will be sent to Denise Balkas, Director of Real estate Development with Wheat Ridge 2020. A sampling event was conducted on the property on December 7, 2009. This document is submitted for your review and approval.

If you have any questions, please call me at 303-291-8272.

Very truly yours,

**URS OPERATING SERVICES, INC.**



Jeremiah Ervin  
Project Manager

Attachment

cc: Denise Balkas/Wheat Ridge 2020  
Charles W. Baker/UOS w/o attachments  
File/UOS

---

# START 3

Superfund Technical Assessment and Response Team 3 -  
Region 8

---



United States  
Environmental Protection Agency  
Contract No. EP-W-05-050

**ANALYTICAL RESULTS REPORT  
for PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**WHEAT RIDGE 7100/7150 WEST 38<sup>TH</sup> AVENUE  
TARGETED BROWNFIELDS ASSESSMENT (TBA)  
Wheat Ridge, Jefferson County, Colorado**

**TDD No. 0909-08**

**JANUARY 25, 2010**



**URS**  
OPERATING SERVICES, INC.

**In association with:**

**Garry Struthers Associates, Inc.  
LT Environmental, Inc.  
TechLaw, Inc.  
Tetra Tech EMI  
TN & Associates, Inc.**

---

**ANALYTICAL RESULTS REPORT  
For PHASE II ENVIRONMENTAL SITE ASSESSMENT**

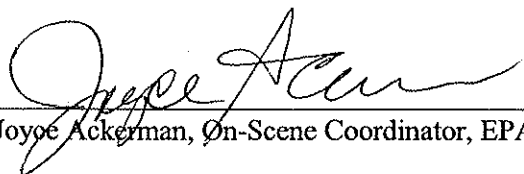
**WHEAT RIDGE 7100/7150 WEST 38<sup>TH</sup> AVENUE-TBA  
Wheat Ridge, Jefferson County, Colorado**

**EPA Contract No. EP-W-05-050  
TDD No. 0909-08**

**Prepared By:  
Jeremiah Ervin  
Environmental Scientist**

**URS Operating Services, Inc.  
1099 18th Street, Suite 710  
Denver, CO 80202-1908**

Approved:

  
Joyce Ackerman, On-Scene Coordinator, EPA, Region 8

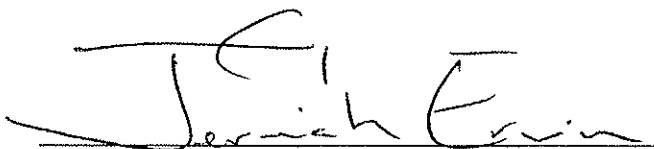
Date: 1-27-2010

Approved:

  
Charles W. Baker, START 3 Program Manager, UOS

Date: 1/25/10

Approved:

  
Jeremiah Ervin, START 3 Project Manager, UOS

Date: 1/25/2010

This document has been prepared for the U.S. Environmental Protection Agency under Contract No. EP-W-05-050. The material contained herein is not to be disclosed to, discussed with, or made available to any person or persons for any reason without prior express approval of a responsible officer of the U.S. Environmental Protection Agency. In the interest of conserving natural resources, this document is printed on recycled paper and double-sided as appropriate.

## **DISTRIBUTION LIST**

### **U.S. ENVIRONMENTAL PROTECTION AGENCY**

Joyce Ackerman (1 copy)                      On-Scene Coordinator, EPA Region 8

### **WHEAT RIDGE 2020**

Denise Balkas (2 copies)                      Director of Real Estate Development, WR2020

### **URS OPERATING SERVICES, INC.**

Jeremiah Ervin (1 copy)                      Project Manager, START 3, EPA Region 8  
File (2 copies)                                  START 3, EPA Region 8

**ANALYTICAL RESULTS REPORT  
For PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**WHEAT RIDGE 7100/7150 West 38<sup>th</sup> AVENUE TARGETED BROWNFIELDS ASSESSMENT  
Wheat Ridge, Jefferson County, Colorado**

**TABLE OF CONTENTS**

	<b><u>PAGE #</u></b>
<b>SIGNATURE PAGE</b>	<b>i</b>
<b>DISTRIBUTION LIST</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>iii</b>
<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 Purpose	
1.2 Detailed Scope of Services	
<b>2.0 PROPERTY DESCRIPTION, HISTORY, AND LAND USE</b>	<b>3</b>
2.1 Location and Legal Description	
2.2 Property and Vicinity General Characteristics	
2.3 Property History	
2.4 Historical Use Information of Adjoining Properties	
2.5 Current Use of the Property and Adjoining Properties	
2.6 Physical Setting of Property	
2.6.1 Topographic Characteristics	
2.6.2 Geology	
2.6.3 Hydrogeology	
2.6.4 Hydrology	
<b>3.0 PROJECT DATA QUALITY OBJECTIVES</b>	<b>7</b>
<b>4.0 SAMPLING ACTIVITIES AND LOCATIONS</b>	<b>8</b>
4.1 Lead-Based Paint Sampling	
4.2 Asbestos-Containing Material Sampling	
<b>5.0 ANALYTICAL RESULTS</b>	<b>9</b>
5.1 Building Materials Samples for Lead Analysis	
5.2 Building Material Samples for Asbestos Analysis	
<b>6.0 DATA QUALITY ASSESSMENT</b>	<b>11</b>
6.1 Field Data Quality Assessment	
6.2 Data Quality Indicators	
6.2.1 Bias	
6.2.2 Sensitivity	
6.2.3 Precision	
6.2.4 Representativeness	
6.2.5 Completeness	
6.2.6 Comparability	

## TABLE OF CONTENTS (continued)

	<b><u>PAGE #</u></b>
<b>7.0 CONCLUSIONS</b>	<b>14</b>
<b>8.0 LIST OF REFERENCES</b>	<b>15</b>
<b>9.0 ENVIRONMENTAL PROFESSIONAL'S QUALIFICATIONS, STATEMENT, AND SIGNATURE</b>	<b>18</b>

## FIGURES

Figure 1	Location Map
Figure 2	Property Details Map
Figure 3	Sample Location Map

## TABLES

Table 1	Sample Locations and Rationale
Table 2	XRF Results for Lead-Based Paint Found on Exterior Building Walls on the Property
Table 3	XRF and Laboratory Results for Paint Chip Samples
Table 4	Analytical Results for Asbestos In Building Materials

## APPENDICES

Appendix A	Photolog
Appendix B	Laboratory Analytical Results
Appendix C	Lead-Based Paint Testing Data Sheets

## **1.0 INTRODUCTION**

This document is submitted in accordance with the task elements specified in Technical Direction Document (TDD) 0909-08 dated September 29, 2009, issued to URS Operating Services, Inc. (UOS) Superfund Technical Assessment and Response Team 3 (START) in Region 8 of the U.S. Environmental Protection Agency (EPA). The purpose of this TDD is to perform a Phase I and Phase II Targeted Brownfields Assessment (TBA) at the property located at 7100/7150 West 38<sup>th</sup> Avenue in Wheat Ridge, Jefferson County, Colorado.

Wheat Ridge 2020 (WR2020), a community-based non-profit development corporation, has requested assistance from the EPA with characterizing environmental conditions for the 7100/7150 West 38<sup>th</sup> Avenue property in Wheat Ridge, Jefferson County, Colorado (Figure 1). WR2020 intends to sell the currently unoccupied property (Wheat Ridge 2020 (WR2020) 2009). This Phase II Analytical Results Report (ARR) includes the analytical results of samples collected on the property, December 7, 2009, and field observations noted during field work.

Field samples of paint and building materials were collected from the property. Building materials samples were analyzed for asbestos fibers and paint samples were analyzed for lead. Paint and building material samples were collected from the building located on the property.

### **1.1 PURPOSE**

The purpose of this Phase II investigation was to collect sufficient environmental data to address the potential recognized environmental conditions identified in the Phase I with respect to the proposed uses of the property located at 7100/7150 West 38<sup>th</sup> Avenue report (URS Operating Services, Inc. (UOS) 2009a). Specifically, the objectives of this Phase II Environmental Assessment are to:

- Determine if the structures on site contain lead-based paint in excess of 1 milligram per square centimeter (mg/cm<sup>2</sup>) or 5,000 milligrams per kilogram (mg/kg) to determine how building debris must be disposed of in the event of a demolition, renovation, or managed if it remains in place;

- Determine if the structures on site contain asbestos fibers in excess of one percent and determine how building debris must be disposed of in the event of a demolition, renovation, or managed if it remains in place; and
- Prepare a Phase II Report, summarizing the results of the investigation of the 7100/7150 West 38<sup>th</sup> Avenue property and stating how potential contamination may affect proposed development plans.

Recognized environmental conditions are defined in ASTM International standard E 1527-05 (ASTM International (ASTM) 2005) as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions (ASTM 2005).

## 1.2 DETAILED SCOPE OF SERVICES

The scope of this Phase II includes environmental sampling and reporting requirements that support the TBA Grantee's desire to sell the currently unoccupied property.

The scope of services follows standards documented in the ASTM Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process with ASTM International designation: E 1905-97 (ASTM 2005). This scope of services may be modified by EPA as more information regarding property conditions becomes available.

## **2.0 PROPERTY DESCRIPTION, HISTORY, AND LAND USE**

### **2.1 LOCATION AND LEGAL DESCRIPTION**

The 7100/7150 West 38<sup>th</sup> Avenue property is located in Wheat Ridge, Jefferson County, Colorado (Figure 1). The property covers approximately 9,827 square feet and is bordered by residential housing, commercial real estate, and Wheat Ridge Middle School (Figure 2). The legal description of the property is the northeast quarter of the northeast quarter of Section 26, T. 3 S., R. 69 W. (U.S. Geological Survey (USGS) 1994). The geographic coordinates of the property are 39° 46' 8.906" north latitude and 105° 4' 35.357" west longitude (USGS 1994).

### **2.2 PROPERTY AND VICINITY GENERAL CHARACTERISTICS**

The 7100/7150 West 38<sup>th</sup> Avenue property currently exists with one building, which was probably built between the 1940s and 1950s, and a vacant asphalt parking lot (WR2020 2009). The last known current use of the property was for the Calvary Temple Christian Church, who had leased the property from the current owner, WR2020, until October 1, 2009. Although there is a change in elevation on the property, all surface water on the property is diverted and collected into two stormwater drains on the south and east sides of the property or by stormwater drains located on West 38<sup>th</sup> Avenue and High Court. The property is located approximately one mile away from Clear Creek. Clear Creek does not pose a threat of flooding to the property (Federal Emergency Management Agency (FEMA) 2009).

The immediate land use within the vicinity consists of residential properties to the south, with mixed use and commercial use to the east, west, and north. Wheat Ridge Middle School, to the north of the property across West 38<sup>th</sup> Avenue, is on the former site of Wheat Ridge Senior/Junior High School, which was built in 1924. The former school buildings were demolished and Wheat Ridge Middle School was built on the same property in 1995 (Wheat Ridge Middle School (WRMS) 2009).

### **2.3 PROPERTY HISTORY**

The current building on the property was thought to have been built between 1940 and the 1950s. ESPRIT Cleaners, a Resource Conservation Recovery Act (RCRA) non-generator, occupied the property until 1996. From information available, ESPRIT Cleaners apparently did not operate as a dry cleaning facility ((Environmental Data Resources, Inc. (EDR) 2009).

A Sanborn map search was performed by EDR for the 7100/7150 West 38<sup>th</sup> Avenue property. One fire insurance map was found dated 1967. The fire insurance map shows a building that was historically on the west side of the current building on the property; presently where this historic building was located is an asphalt paved parking lot. The historic building, no longer on the property, and the building currently on the property were both used as stores in 1967. A records search with the city of Wheat Ridge's Development and Zoning department discovered building permits for the building located on the 7150 West 38<sup>th</sup> Avenue property. The building permits were dated February 22, 1972. The building permit description noted "repair for fire damage and general remodeling." The property was owned by Dee J. Byrnes who utilized the property for his business, J. D. Industrial Insulation Inc.. A records search with the Jefferson County Planning and Zoning Division did not uncover any other information for the property within this time period.

## **2.4 HISTORICAL USE INFORMATION ON ADJOINING PROPERTIES**

The city of Wheat Ridge was founded as a community in 1859. It was a farming community that supported Denver and nearby mining communities, and became the largest producer of carnations worldwide until the mid-20th century. Wheat Ridge did not incorporate until August 1969, when it was faced with annexation by surrounding cities (Wikipedia 2009).

A Sanborn map search was performed by EDR for the 7100/7150 West 38<sup>th</sup> Avenue property. One fire insurance map was found dating 1967. The fire insurance map shows an apartment building complex south of the property. North of the property across West 38<sup>th</sup> Avenue is Wheat Ridge Middle School on the former site of Wheat Ridge Senior/Junior High School, which was built in 1924, and a dry cleaner and commercial stores; east of the property were commercial stores and a paint shop; west of the property were commercial stores (glazing store, and a wholesale rug store)(EDR 2009).

## **2.5 CURRENT USE OF THE PROPERTY AND ADJOINING PROPERTIES**

The 7100/7150 West 38<sup>th</sup> Avenue property currently exists with one building, which was thought to have been built between the 1940s and 1950s, and a vacant asphalt parking lot (WR2020 2009). The last known current use of the property was for the Calvary Temple Christian Church, who leased the property from the current owner (WR2020 2009).

Residential housing primarily makes up the property to the south of the 7100/7150 West 38<sup>th</sup> Avenue property (Figure 2). Adjacent to the east, is A-1 Rental Services, which has a 500-gallon propane aboveground storage tank used to refill customers' barbecue propane tanks. The tank is inspected and certified on a routine basis and has never had any issues (A-1 Rental 2009). To the west of the property are commercial buildings that are made up of little shops and vacant buildings that are for sale or lease. To the north is Wheat Ridge Middle School, which in 1995 was built on the site of former school buildings that were built in 1924 (UOS 2009c) (WRMS 2009). To the northeast across West 38<sup>th</sup> Avenue is Wheat Ridge Cyclery and commercial retail outlets.

## **2.6 PHYSICAL SETTING OF PROPERTY**

### **2.6.1 Topographic Characteristics**

The 7100/7150 West 38<sup>th</sup> Avenue property slopes gently to the north towards West 38<sup>th</sup> Avenue and consists primarily of an asphalt parking lot that has two stormwater drains and a building that was built between 1940 and 1950, that most recently was used as a church (Figure 2). The elevation of the property is approximately 5,437 feet above sea level (EDR 2009). The climate in the Wheat Ridge, Colorado, area is semiarid. The mean annual precipitation as totaled from the University of Delaware (UD) database is 15 inches. The net annual precipitation as calculated from precipitation and evapotranspiration data obtained from the UD database is 0.83 (University of Delaware 1986). The 2-year, 24-hour rainfall event for the site area is approximately 1.5 inches (Dunne, Thomas, and Luna B. Leopold 1978).

### **2.6.2 Geology**

The 7100/7150 West 38<sup>th</sup> Avenue property is located in the Colorado Piedmont section of the Great Plains physiographic province (Trimble 1980). The property overlies the Denver Basin and the surficial geological features are the Denver Formation and Arapahoe Formation. The Denver Formation is approximately 600 to 1,100 feet thick and consists of moderately consolidated, interbedded shale, claystone, siltstone, and sandstone, in which coal and fossilized plant remains are common (Robson and Banta 1985). The Arapahoe Formation consists of a 400 to 700-foot-thick sequence of interbedded conglomerate, sandstone, siltstone, and shale (Robson and Banta 1985).

The main soil type on and around the property is the Nunn-Urban land complex (U.S. Department of Agriculture (USDA) 1980). Nunn soils are deep and well-drained, and formed in calcareous, clayey material derived from mudstone and shale. Permeability is slow with a high water capacity (Bureau Veritas (BV) 2007).

The property is covered by an asphalt parking lot with a building structure and two stormwater drains. Since the property is impermeable, surface water flows rapidly off the property to the northeast toward Clear Creek or to the two stormwater drains located on the property (Figure 2).

### 2.6.3 Hydrogeology

The Denver Basin is composed of aquifers, or water bearing formations, that lie one on top of the other in layers. Between the layered aquifers, there is a confining layer. This confining layer isolates the individual aquifers from each other. There is groundwater in the aquifers underlying the land in the Denver Basin. The groundwater was deposited millions of years ago when the Denver Basin was formed. Because of the nature of the confining layers and because of the limited connection between these aquifers and surface water, the groundwater in the aquifers is not renewable. When the groundwater is used, it is being mined or used up without any replacement (Colorado Division of Water Resources (CDWR) 2009). Groundwater in the Denver Basin is found in four sequential aquifers: the Dawson Aquifer (0 to 600 feet in depth), the Denver Aquifer (0 to 800 feet in depth), the Arapahoe Aquifer (0 to 400 feet in depth), and the Laramie-Fox Hills Aquifer (0 to 300 feet in depth) (Robson 1987).

### 2.6.4 Hydrology

The 7100/7150 West 38<sup>th</sup> Avenue property topography, based off the declining slope in elevation to the northeast, shows that surface water flows northeast to Clear Creek, which is approximately one mile north of the property. The property is covered by an asphalt parking lot with a building structure and two stormwater drains. The property is impermeable, thus surface water flows rapidly off the property to the northeast toward Clear Creek or to the two stormwater drains located on the property (Figure 2).

### 3.0 PROJECT DATA QUALITY OBJECTIVES

The EPA Data Quality Objectives (DQO) Process is a seven-step systematic planning approach to develop acceptance or performance criteria for EPA-funded projects. The seven steps of the DQO process are:

- Step 1 The Problem Statement;
- Step 2 Identifying the Decision;
- Step 3 Identifying the Decision Inputs;
- Step 4 Defining the Study Boundaries;
- Step 5 Developing a Decision Rule;
- Step 6 Defining Tolerance Limits on Decision Errors; and
- Step 7 Optimizing the Sample Design.

These DQOs were developed by UOS based on information provided by the EPA, Wheat Ridge 2020, and research to compile the Phase II Report on this property. A complete step-by-step explanation of the DQO process for this property is explained in the approved Field Sampling Plan (FSP) (UOS 2009b).

The two questions identified in the DQO process to be answered by this investigation were:

1. Is lead-based paint located on the property at concentrations requiring special disposal or handling?
2. Are asbestos-containing materials located on the property at concentrations requiring special disposal or handling?

All planned samples were collected and all planned field activities were conducted as outlined in the approved FSP. A data review determined that sufficient data of useable quality were collected to answer the two questions identified in the DQO process. The field and analytical data and the conclusions reached from this information are presented in this report.

#### **4.0 SAMPLING ACTIVITIES AND LOCATIONS**

##### **4.1 LEAD-BASED PAINT SAMPLING**

This Phase II investigation involved the collection of approximately 42 X-ray fluorescence (XRF) readings using a handheld XRF instrument to analyze painted and coated exterior and interior surfaces of the building on the property for lead (Photos 1 through 8). These quantities included one reading of the paint of each wall, one reading of the paint of the ceiling, and as many as four other painted surfaces in each room equivalent or building exterior. One of each of the following testing combinations was examined in each room or building exterior, if present:

- Window casings, stops, jambs, and aprons
- Interior window mullions and window sashes
- Door jambs, stops, transoms, casings, and other door frame parts
- Door stiles, rails, panels, mullions, and other door parts
- Baseboards and associated trim (such as quarter-round or other caps)
- Built-in or attached furniture such as bookcases, shelving, and medicine cabinets

Additionally five paint chip samples were collected and were sent to an independent lab for confirmatory analysis (Photos 9 and 22 through 26). The paint chips were collected from the three locations with the highest XRF readings and two locations with an ambiguous XRF result.

##### **4.2 ASBESTOS-CONTAINING MATERIAL SAMPLING**

The Phase II investigation involved the collection 12 potential asbestos containing material (PACM) samples (Photos 10 through 21). An Asbestos Hazard Emergency Response Act (AHERA) certified inspector identified materials that may contain asbestos in the building prior to the samples being collected. The twelve PACM samples that were collected, included ceiling tiles from the ceiling in the main room of the building; drywall and lath and plaster, window glazing, and a brick stucco surface from the exterior of the house. The samples were collected using dedicated coring tools or a decontaminated stainless steel knife. Samples were placed directly in 8-inch by 8-inch seal top poly

bags and labeled with the sample number. Samples were shipped under chain of custody to an analytical lab.

## 5.0 ANALYTICAL RESULTS

Analytical results are presented in Tables 1 through 4

The analytical methods used for the analyses are as follows:

- Lead in Paint- Method EPA SW846 3050B.
- Asbestos in Building Material - Polarized Light Microscopy (PLM)

### 5.1 BUILDING MATERIAL SAMPLES FOR LEAD ANALYSIS

Forty-two paint samples were analyzed *in situ* using an Innov-X Systems A-4000 handheld XRF instrument. Lead-based paint is defined as paint with a lead concentration greater than or equal to one mg/cm<sup>2</sup> (U.S. Department of Housing and Urban Development (HUD) 2005).

The following is a summary of the quantity and distribution of lead-based paint:

- Of the thirty-five paint XRF readings obtained in the interior of the 7100 West 38<sup>th</sup> Avenue building, zero identified lead-based paint.
- Of the seven paint XRF readings obtained on the exterior of the 7100 West 38<sup>th</sup> Avenue building, two identified lead-based paint.

Positive XRF results for the lead-based paint samples are presented in Table 2. Lead-based paint testing data sheets are included in Appendix C.

Five paint chip samples were collected from the interior and exterior of the 7100 West 38<sup>th</sup> Avenue building. Paint chip samples were obtained in the same location of the *in situ* XRF sample. Biased sampling was used to collect samples where lead-based paint was identified by the XRF analysis. The paint chip samples obtained from the interior of 7100 West 38<sup>th</sup> Avenue building were collected from one window casing and one window sash. The paint chip sample obtained from the exterior of the

7100 West 38<sup>th</sup> Avenue building were collected from the south, east, and west walls. A 4-inch square (in<sup>2</sup>) (or 25-centimeter square (cm<sup>2</sup>)) area of paint was collected into seal top poly bags. Paint chip samples included of all layers of paint down to the substrate material.

The lab results for the paint chip samples and their comparison with XRF results are listed in Table 3. The laboratory analysis shows that all XRF samples identified as positive for lead paint using the standard of 1.0 mg/cm<sup>2</sup> are confirmed as positive.

Because the XRF analysis performed on the paint samples, and confirmed by laboratory analysis, indicated that the lead content was greater than one mg/cm<sup>2</sup>, the exterior tan paint is considered lead-based paint. The Occupational Safety and Health Administration (OSHA) would consider exposure to workers involved in demolition or renovation of the 7100 West 38<sup>th</sup> Avenue building to be a concern and would require worker exposure monitoring (Code of Federal Regulations (CFR) 1993).

## 5.2 BUILDING MATERIAL SAMPLES FOR ASBESTOS ANALYSIS

Twelve building material samples were collected for asbestos analysis. Asbestos-containing material (ACM) is identified as material containing greater than one percent asbestos fibers (CFR 2007). The following summarizes the results of the asbestos analysis:

- Of the ten building material samples obtained from the interior of the 7100 West 38<sup>th</sup> Avenue building, one identified trace amounts of chrysotile asbestos.
- Of the two building material samples collected from the exterior of the 7100 West 38<sup>th</sup> Avenue building, zero identified ACM.

The asbestos analysis results are presented in Table 4. Trace amounts of asbestos material (chrysotile) was identified in one of the two interior samples of the lath and plaster collected from the 7100 West 38<sup>th</sup> Avenue building. Therefore, the lath and plaster from the 7100 West 38<sup>th</sup> Avenue building needs to be evaluated further to determine if this building material contains greater than one percent asbestos fibers, before any kind of renovation or demolition of this building material should occur. If the lath and plaster is identified as ACM, by future sampling, exposure to workers involved in demolition or renovation of the lath and plaster in the 7100 West 38<sup>th</sup> Avenue building would be considered by OSHA to be a concern and would require worker exposure monitoring (CFR 1993).

## **6.0 DATA QUALITY ASSESSMENT**

### **6.1 FIELD DATA QUALITY ASSESSMENT**

All applicable Technical Standard Operating Procedures (TSOPs) were followed as prescribed in the approved FSP (UOS 2005).

Standard field sample collection procedures, designed to ensure data quality, were followed. Dedicated sampling equipment was used for sampling.

All appropriate documentation procedures including the log book, photo documentation, sample locations, sample handling, and chain-of-custody were followed in the field.

Field reading instrumentation (XRF) was calibrated according to manufacturers' instructions and functioned normally in the field.

### **6.2 DATA QUALITY INDICATORS**

A data quality review for project data was conducted by the project manager to determine data quality and usability. The project data quality review included:

- Quality Assurance/Quality Control (QA/QC) review of field-generated data and observations;
- Evaluation of QC samples including field replicates and matrix spike laboratory control samples to assess the quality of the field activities and laboratory procedures;
- Assessment of the quality of data measured and generated in terms of accuracy, precision, and representativeness; and
- Summary of the usability of the data, based upon the assessment of data conducted during the previous steps.

### 6.2.1 Bias

Bias is systematic or persistent distortion of a measurement process that causes errors in one direction. The extent of bias was determined by an evaluation of laboratory initial calibration/continuing calibration verification, laboratory control spike/laboratory control spike duplicates, blank spikes, Matrix Spike/Matrix Spike Duplicate (MS/MSD), and method blanks. Laboratory procedures were appropriate and systematic or persistent bias was not detected.

### 6.2.2 Sensitivity

Sensitivity generally refers to the capability of a method or instrument to discriminate between small differences in analyte concentration and is generally discussed as detection limits. The detection limits of the field and laboratory methods are within the range of the benchmarks that were used to evaluate this property.

### 6.2.3 Precision

Precision is the measure of agreement among repeated measurements of the same property under identical, or substantially similar, conditions and is expressed as the relative percent difference (RPD) between the sample pairs. Two replicate samples for asbestos analysis were collected to determine precision.

Analyte	Sample WRSM01 Main Room (%)	Sample WRSM02 Field replicated of WRSM01 (ng/kg)	Relative Percent Difference original/replicate
Asbestos	ND	ND	NA

NA not applicable as a numerical comparison can not be drawn due to non-detects for one or both measurements

Precision is within acceptable levels.

### 6.2.4 Representativeness

Representativeness is the measure of the degree to which data accurately and precisely represent a characteristic of a population parameter, variations at a sampling point, a process condition, or an environmental condition. Representativeness encompasses both the degree to which measurements reflect the actual concentration, and the degree to which sampling units

reflect the population they represent. Representativeness was addressed by adherence to TSOPs for sampling procedures, field and laboratory QA/QC procedures, collecting appropriate sample material, homogenization methods, analytical methods, and sample preparation.

#### **6.2.5 Completeness**

Completeness is a measure of the amount of valid data obtained from a measurement system. The actual percentage of completeness is less important than the effect of completeness on the data set. All planned samples were collected at the 7100 West 38<sup>th</sup> Avenue building.

#### **6.2.6 Comparability**

Comparability is the qualitative term that expresses the confidence that two data sets can contribute to common interpretation and analysis and is used to describe how well samples within a data set, as well as two independent data sets, are interchangeable. Comparability was addressed by a data usability review comparing the results of field observations and laboratory analyses. Data were found to be comparable across data sets.

## 7.0 CONCLUSIONS

Lead-based paint was not identified on the interior of the 7100 West 38<sup>th</sup> Avenue building, but was found in two samples of the tan paint on the exterior of the 7100 West 38<sup>th</sup> Avenue building. XRF analysis performed on these samples indicated that the lead content was greater than one mg/cm<sup>2</sup>; therefore, the exterior of the 7100 West 38<sup>th</sup> Avenue building is considered lead-based paint. OSHA would consider exposure to workers involved in demolition or renovation of the exterior of the 7100 West 38<sup>th</sup> Avenue building to be a concern and would require worker exposure monitoring (CFR 1993). The Colorado Department of Health and Environment guidelines and regulations for lead-based paint will need to be followed and achieved if renovation of the exterior of the 7100 West 38<sup>th</sup> Avenue building takes place.

Trace amounts of chrysotile asbestos was identified in one of the two lath and plaster samples taken from the interior of 7100 West 38<sup>th</sup> Avenue building. Therefore, the lath and plaster from the 7100 West 38<sup>th</sup> Avenue building needs to be evaluated further to determine if this building material contains greater than one percent asbestos fibers, before any kind of renovation or demolition of this building material should occur. If the lath and plaster is identified as ACM, by future sampling, exposure to workers involved in demolition or renovation of the lath and plaster in the 7100 West 38<sup>th</sup> Avenue building would be considered by OSHA to be a concern and would require worker exposure monitoring (CFR 1993). If the lath and plaster in the 7100 West 38<sup>th</sup> Avenue building is identified as ACM by future sampling, Colorado Department of Health and Environment guidelines and regulations for ACM will need to be followed and achieved if renovation of the lath and plaster areas of the 7100 West 38<sup>th</sup> Avenue building takes place.

Fluorescent light ballasts are present in the building on the property. Given that the ballasts are not marked to indicate that they are PCB-free it is probable that they contain PCB-containing oils. If the fluorescent light ballasts should fail, appropriate arrangements should be made to dispose of the ballasts properly. The EPA suggests arrangements for disposal to be made by PCB transporters or PCB commercial stores for shipment of ballast, PCB-soiled items, or fluorescent fixtures containing PCBs to an EPA-approved chemical waste processing site (EPA 2009).

## 8.0 LIST OF REFERENCES

A-1 Rental. 2009. Communication of Chuck Redig, owner of A-1 Rental, with Jeremiah Ervin of START on October 6, 2009.

ASTM International (formerly known as American Society for Testing and Materials) (ASTM). 2005. Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. ASTM Designation: E 1903-97.

Bureau Veritas (BV). 2007. Phase 1 Environmental Site Assessment for Three Parcels, 7340, and 7540 West 44<sup>th</sup> Avenue, Wheat Ridge, Jefferson County, Colorado. October 29, 2007.

Code of Federal Regulations (CFR) . Asbestos. 29 CFR Part 1910. June 30, 1993, edition.

Code of Federal Regulations (CFR) . Asbestos. 40 CFR Part 763. July 1, 2007, edition.

Colorado Division of Water Resources (CDWR). 2009. Ground Water Information and Well Permitting-Denver Basin. <http://water.state.co.us/groundwater/denbasin.asp>. October 15, 2009.

Dunne, Thomas and Luna B. Leopold. 1978. "Water and Environmental Planning." W. H. Freeman and Company, San Francisco.

Environmental Data Resources, Inc. (EDR). 2009. Radius Report with GeoCheck®, Historical Topographic Maps, and Sanborn Map Report.

Federal Emergency Management Agency (FEMA). 2009. Flood map available at <http://www.Fema.gov>. Accessed in October 2009.

Robson, S. G. 1987. "Bedrock Aquifers in the Denver Basin, Colorado—A Quantitative Water Resources Appraisal." Prepared for U.S. Geological Survey. U.S. Government Printing Office, 1987.

Robson, S. G. and E. R. Banta. 1985. "Ground Water Atlas of the United States; Arizona, Colorado, New Mexico, Utah; HA 730-C-Denver Basin Aquifer System." Prepared for U.S. Geological Survey.

Trimble, Donald. E. 1980. "The Geologic Story of the Great Plains-Geological Survey Bulletin 1493".  
Prepared for the Department of the Interior. U.S. Government Printing Office, 1980.

U.S. Department of Housing and Urban Development (HUD). 2005. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Homes.

U.S. Department of Agriculture (USDA). 1980. "Soil Survey of the Golden Area, Parts of Denver, Douglas, Jefferson, and Park Counties." USDA Soil Conservation Service.

U.S. Geological Survey (USGS). 1994. 7.5 Minute Topographic Map Quadrangle of Arvada.

University of Delaware, Center for Climate Research, Department of Geography. 1986. Terrestrial Water Budget Data Archive; Version 1.01, compiled by C. J. Willmott and C. M. Rowe.

U.S. Environmental Protection Agency (EPA). 2009. PCBs in Fluorescent Light Fixtures. Update October 22, 2009.

<http://yosemite.epa.gov/R10/OWCM.NSF/87b3a0af7a396bf9882564f8002c4080/d053fb2a8fcba715882569ed00782e8a!OpenDocument>

URS Operating Services, Inc. (UOS). 2005. "Technical Standard Operating Procedures for the Superfund Technical Assessment and Response Team (START), EPA Region 8." September 2005.

URS Operating Services, Inc. (UOS). 2009a. Phase I Report, Wheat Ridge 7100/7150 West 38<sup>th</sup> Avenue Targeted Brownfields Assessment, Wheat Ridge, Jefferson County, Colorado. November 10, 2009.

URS Operating Services, Inc. (UOS). 2009b. Phase II Field Sampling Plan, Wheat Ridge 7100/7150 West 38<sup>th</sup> Avenue Targeted Brownfields Assessment, Wheat Ridge, Jefferson County, Colorado. December 03, 2009.

URS Operating Service, Inc. (UOS). 2009c. Log Book from the 7100/7150 West 38<sup>th</sup> Avenue Property Reconnaissance that was conducted on October 6, 2009.

Wheat Ridge 2020 (WR2020). 2009. Personal communication between Jeremiah Ervin of START with Denise Balkas, Director of Real Estate. September 29, 2009.

Wikipedia. 2009. Wheat Ridge, Colorado, History. [http://en.wikipedia.org/wiki/Wheat\\_Ridge\\_Colorado](http://en.wikipedia.org/wiki/Wheat_Ridge_Colorado).  
May 29, 2009.

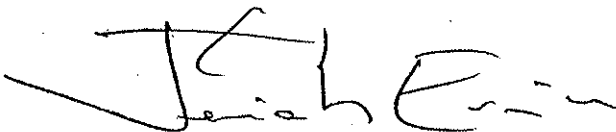
Wheat Ridge Middle School (WRMS). 2009. Wheat Ridge Middle School, Facility Overview.  
<http://jeffco.k12.co.us/middle/wrms/about/index.htm>. October 14, 2009.

**9.0 ENVIRONMENTAL PROFESSIONAL'S QUALIFICATIONS, STATEMENT, AND  
SIGNATURE**

This work was conducted by an environmental professional as specified in Section 7.5.1 of E 1527-05 and defined pursuant to 40 CFR.10 (ASTM 2005).

Jeremiah Ervin has a Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five (5) years of full-time relevant experience such as participation in the performance of all appropriate inquiries investigations, environmental site assessments or other site investigations including environmental analyses, investigations, and remediation, which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions and for which professional judgment was used to develop opinions regarding conditions indicative of releases or threatened releases (see 312.1(c)) to the subject property. Jeremiah Ervin remains current in his field through participation in continuing education or other activities.

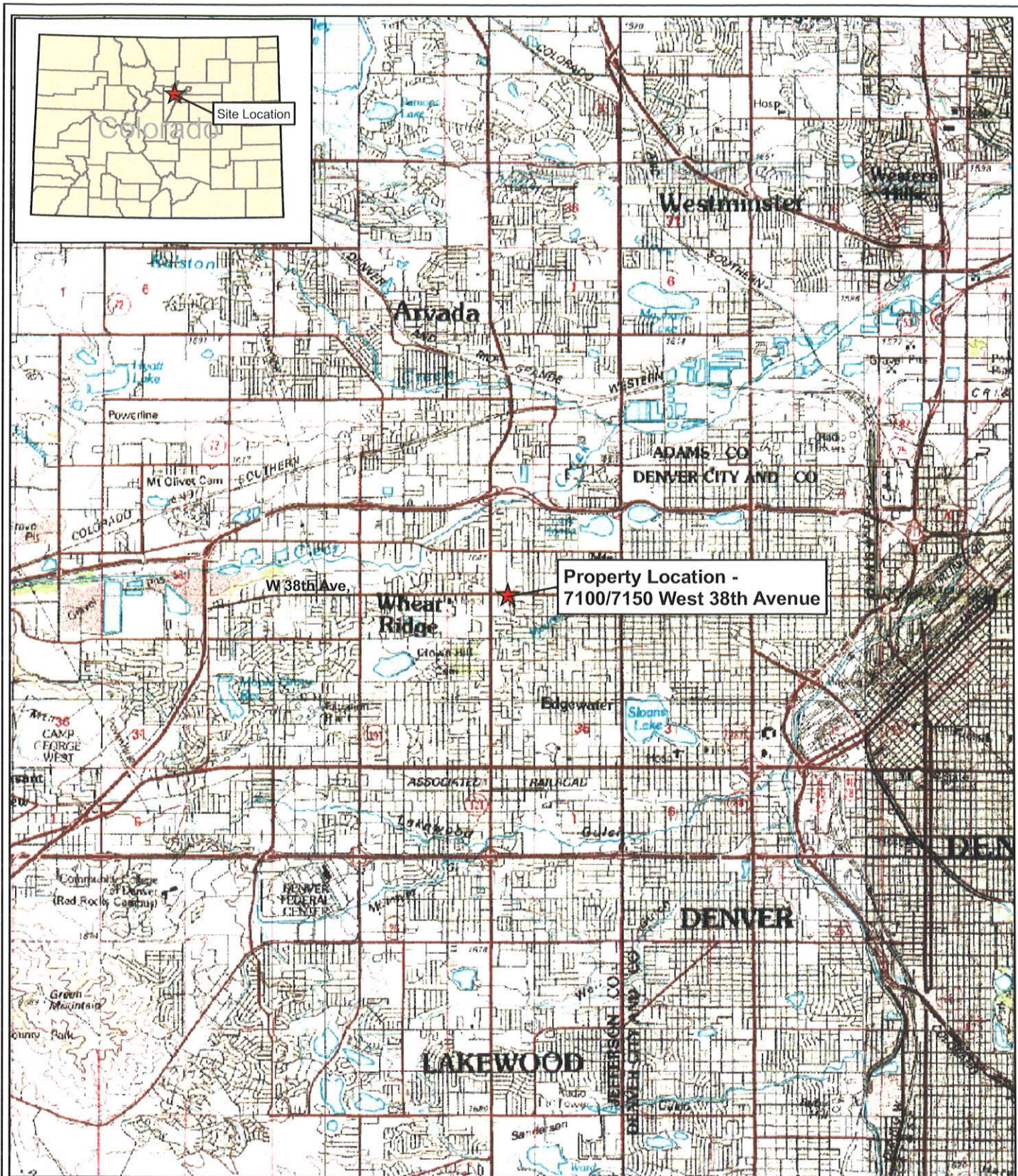
I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all appropriate inquiry in conformance with the standards and practices set forth in 40 CFR Part 312.



Jeremiah Ervin, Project Manager

Date:

1/25/2010



Projection System:  
Universal Transverse  
Mercator Zone 13 North  
North American Datum 1983

0 1.5 3  
Miles  
1 inch Page Size: 8.5 x 11

TDD Title: **Wheat Ridge 7100/7150  
West 38th Avenue  
Phase II TBA**

Figure: 1

Figure Title: Property Location Map

TDD County: JEFFERSON  
TDD State: CO

TDD: 0909-08  
Date: 01/2010

**URS**  
OPERATING SERVICES

Sources:  
Terra Server 1968





Projection System:  
Universal Transverse  
Mercator Zone 13 North  
North American Datum 1983

0 100 200

Feet

1 inch

Page Size: 8.5 x 11



TDD Title: **Wheat Ridge 7100/7150  
West 38th Avenue  
Phase II TBA**

Figure: 2

Figure Title: Property Details Map

TDD County: JEFFERSON

TDD State: CO

TDD: 0909-08

Date: 01/2010

**URS**  
OPERATING SERVICES

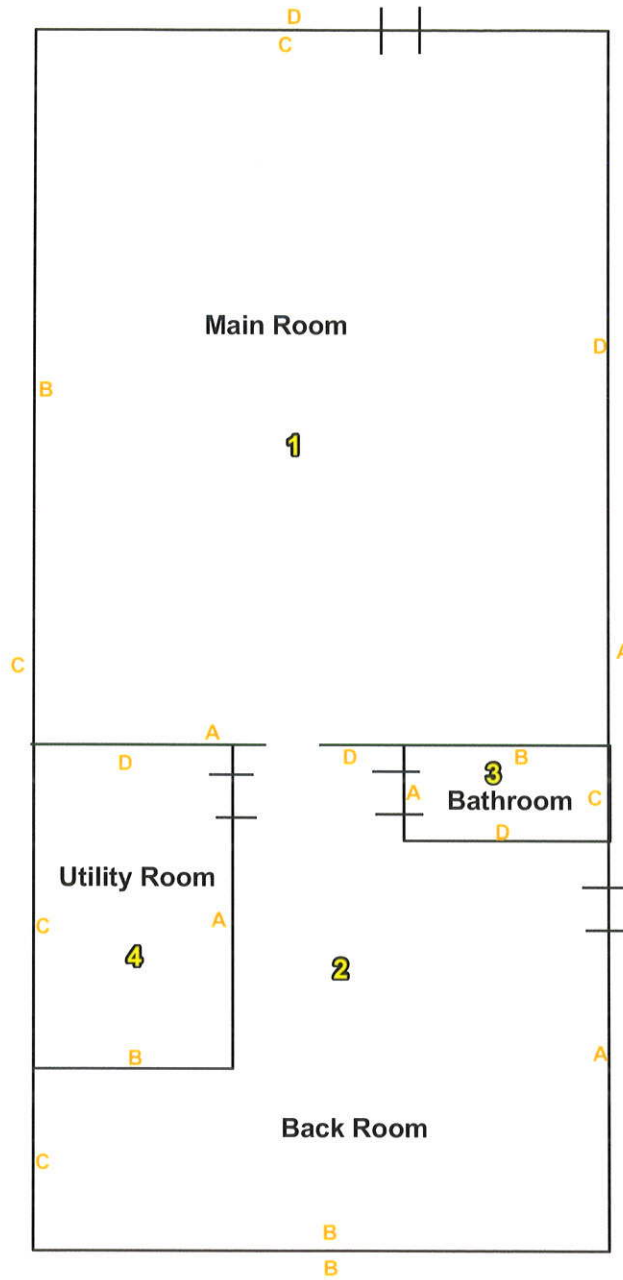


Sources:  
City of Wheat Ridge GIS 2008

W. 38th Ave.

Parking Lot

High Ct.



## Legend

|| Doors

Projection System:  
Universal Transverse  
Mercator Zone 13 North  
North American Datum 1983

0 10 20  
Feet

1 inch Page Size: 8.5 x 11



TDD Title: **Wheat Ridge 7100/7150  
West 38th Avenue  
Phase II TBA**

Figure: 3

Figure Title: **7100 W 38th Avenue  
Sample Location Map**

TDD County: JEFFERSON

TDD State: CO

TDD: 0909-08

Date: 01/2010

**URS**  
OPERATING SERVICES

Sources:  
Digital Globe 2006



**TABLE 1**  
**Sample Locations and Rationale**

Sample ID	Sample Location	Sample Rationale
WR##X##	Lead paint samples	To determine if lead-based paint is present in the interior and exterior of the building on the property.
WRXX##	Asbestos samples	To determine if ACM is present in the interior and exterior building on the property.

**TABLE 2**  
**XRF Results for Lead-Based Paint Found on Exterior Building Walls On the Property**

Sample ID	Location	Object	Color	Condition	Substrate	Lead (mg/cm <sup>2</sup> )	+/- Lead (mg/cm <sup>2</sup> )
WRA01	7100 West 38 <sup>th</sup> Avenue building	Ext. Wall	Tan	Fair	Plaster	1.59	0.2
WRA03	7100 West 38 <sup>th</sup> Avenue building	Ext. Window Frame	Tan	Poor	Metal	1.1	0.05

**TABLE 3**  
**XRF and Laboratory Results for Paint Chip Samples**

Sample ID	Object	Color	Condition	Substrate	XRF		LAB
					Lead (mg/cm <sup>2</sup> )	+/- Lead (mg/cm <sup>2</sup> )	
WRA01	Exterior Wall	Tan	Fair	Plaster	1.59	0.24	1.016
WRB01	Exterior Wall	Tan	Fair	Plaster	ND	ND	0.634
WRC01	Exterior Wall	Tan	Fair	Plaster	ND	ND	ND
WR03A05	Interior Window Sash	White	Fair	Wood	0.33	0.08	0.026
WR02B01	Interior Window Casing	Red	Fair	Wood	ND	ND	ND

mg/cm<sup>2</sup> Milligrams per square centimeter

ND Non-detectable, below reporting limit.

**TABLE 4**  
**Analytical Results for Asbestos In Building Materials**

Sample ID	Description	Location	Mineral	Asbestos Content (%)
WRSM01	Drywall	Main Room	--	ND
WRSM02	Drywall	Utility Room	--	ND
WRSM03	Lath & Plaster	Main Room	Chrysotile	TR
WRSM04	Lath & Plaster	Bathroom	--	ND
WRSM05	Spackle Compound	Back Room	--	ND
WRSM06	Spackle Compound	Back Room	--	ND
WRSM07	Stucco Compound	Exterior Wall	--	ND
WRSM08	Stucco Compound	Exterior Wall	--	ND
WRMI09	Window Glazing	Bathroom Window	--	ND
WRMI10	Window Glazing	Exterior Window	--	ND
WRMI11	Ceiling Tile	Main Room	--	ND
WRMI12	Ceiling Tile	Main Room	--	ND

TR Trace, <1% Visual Estimate  
 ND Non-Detected

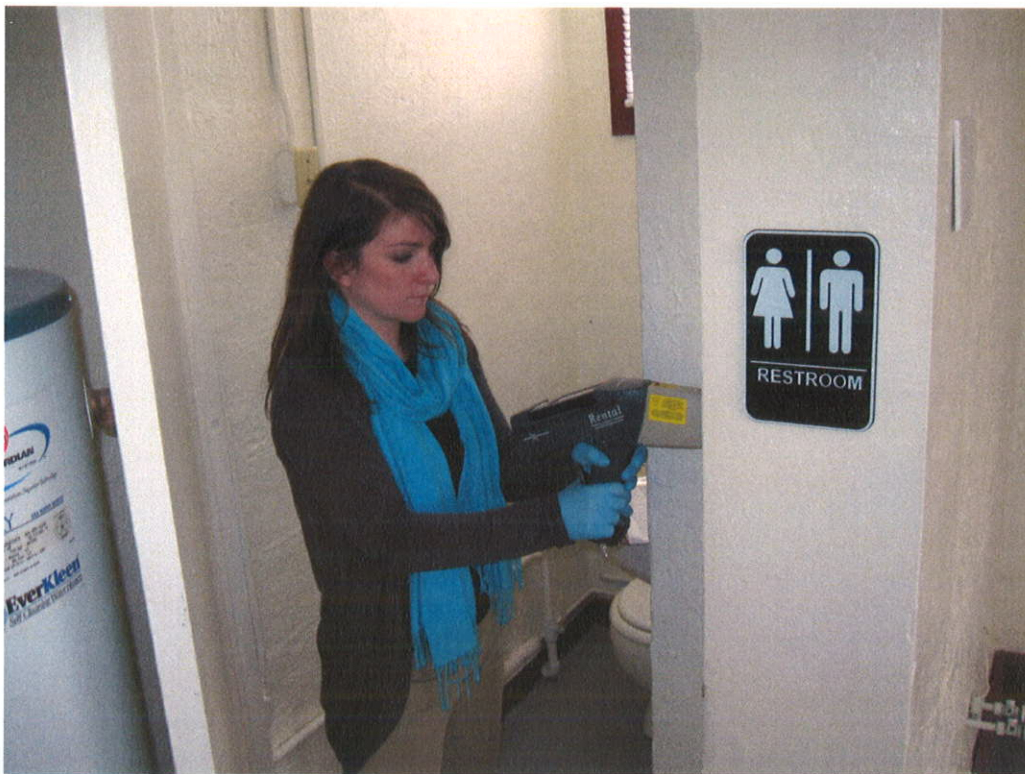
## **APPENDIX A**

### **Photolog**



**PHOTO 1**

M. Dudevoir of START performing a lead-based paint test on the east-facing door with an Inovex XRF.



**PHOTO 2**

M. Dudevoir of START performing a lead-based paint test on the side wall looking north.



**PHOTO 3**

M. Dudevoir of START performing a lead-based paint test on the door panel of the storage room.



**PHOTO 4**

M. Dudevoir of START performing a lead-based paint test of the floor in the back room.



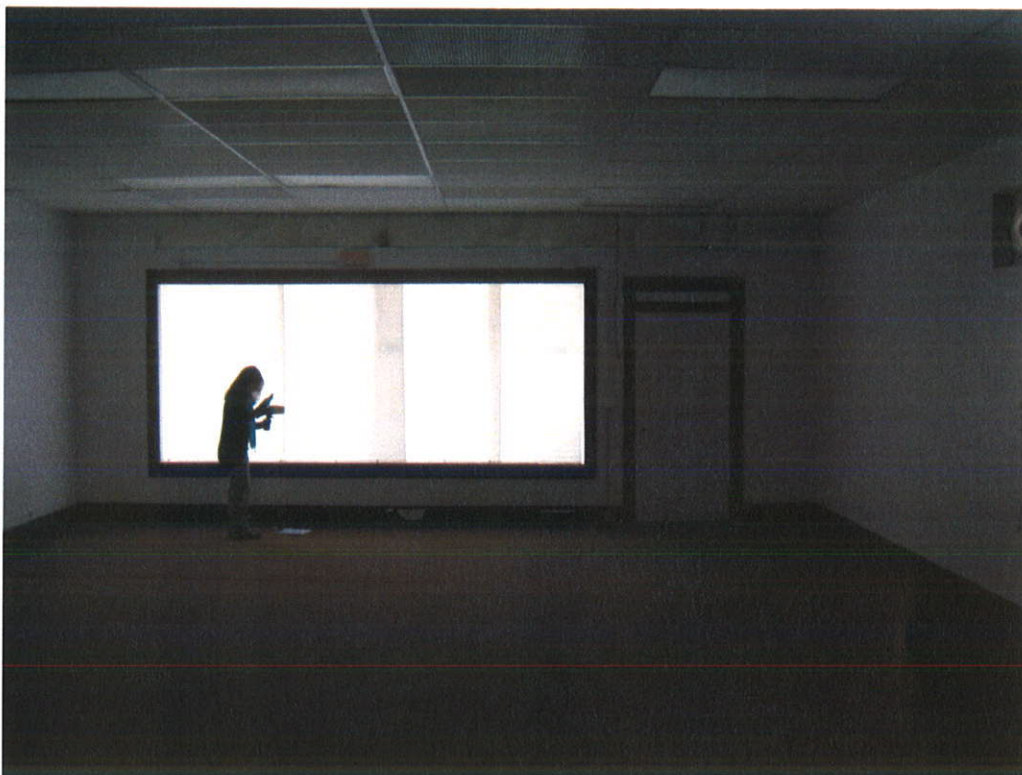
**PHOTO 5**

M. Dudevoir of START performing a lead-based paint test on the floor in the back room. (Note the two colors of paint.)



**PHOTO 6**

M. Dudevoir of START performing a lead-based paint test on the westernmost wall in the main room.



**PHOTO 7**

M. Dudevoir of START documenting lead-based paint data on the Inovex XRF.



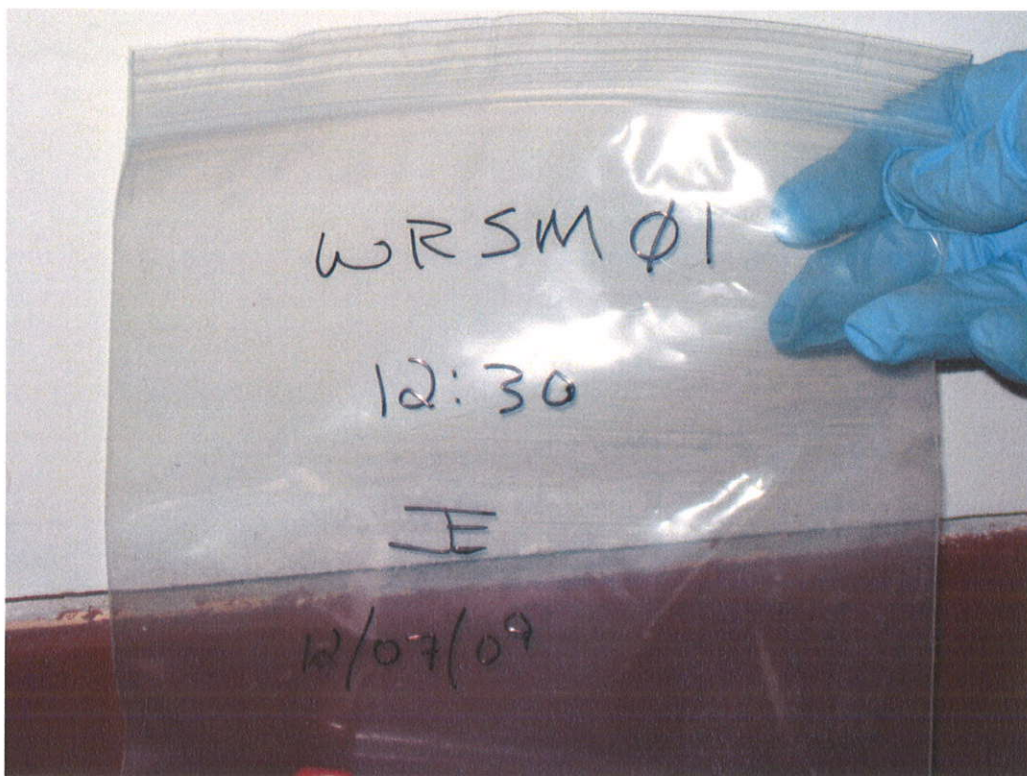
**PHOTO 8**

M. Dudevoir of START performing a lead-based paint test on the on the east wall outside of the building.



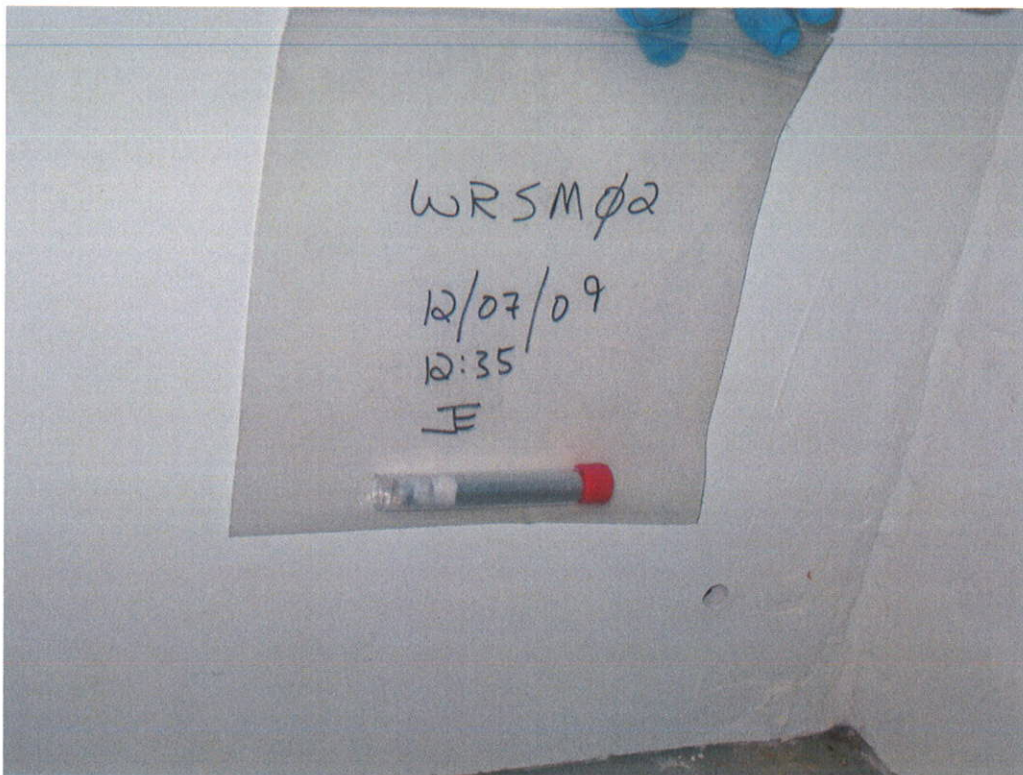
**PHOTO 9**

M. Dudevoir of START collecting a lead-based paint sample for laboratory analysis. Looking west.



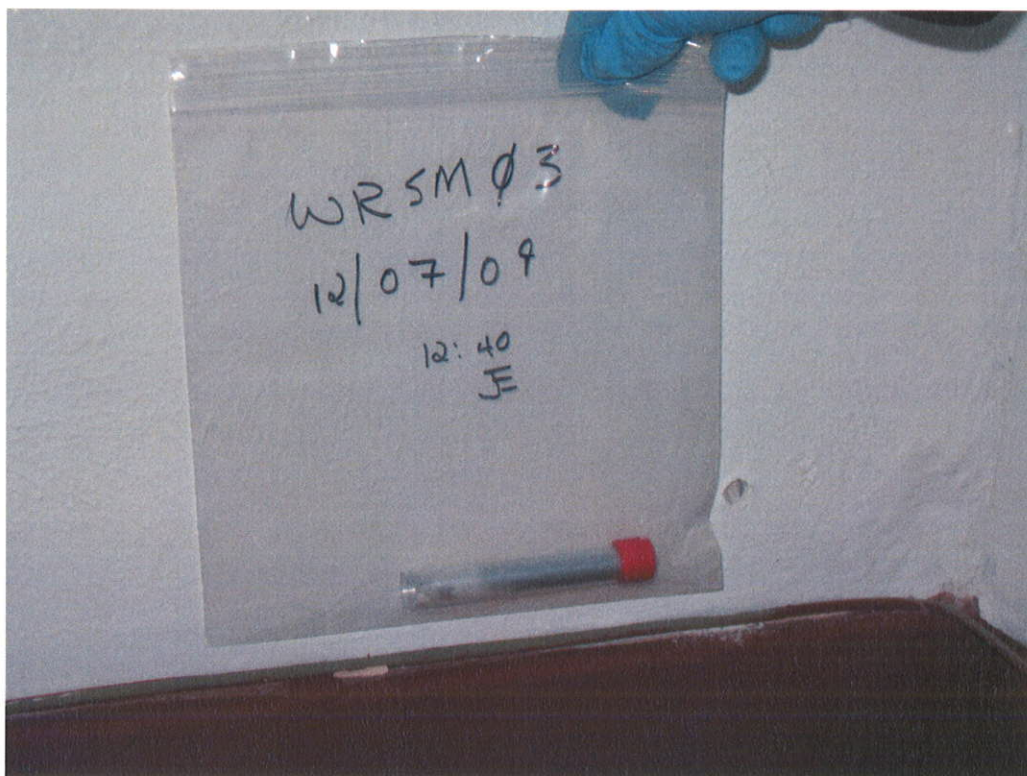
**PHOTO 10**

Collected suspected asbestos sample from location WRS M01. Looking south.



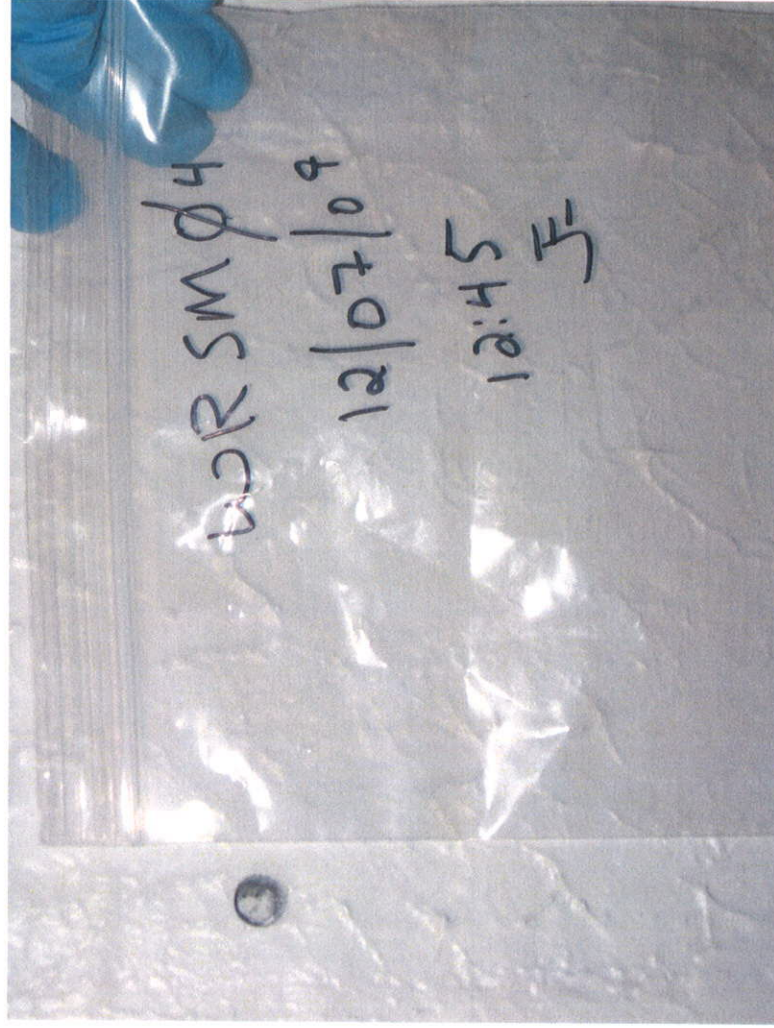
**PHOTO 11**

Collected suspected asbestos sample WRSM02. Looking south.



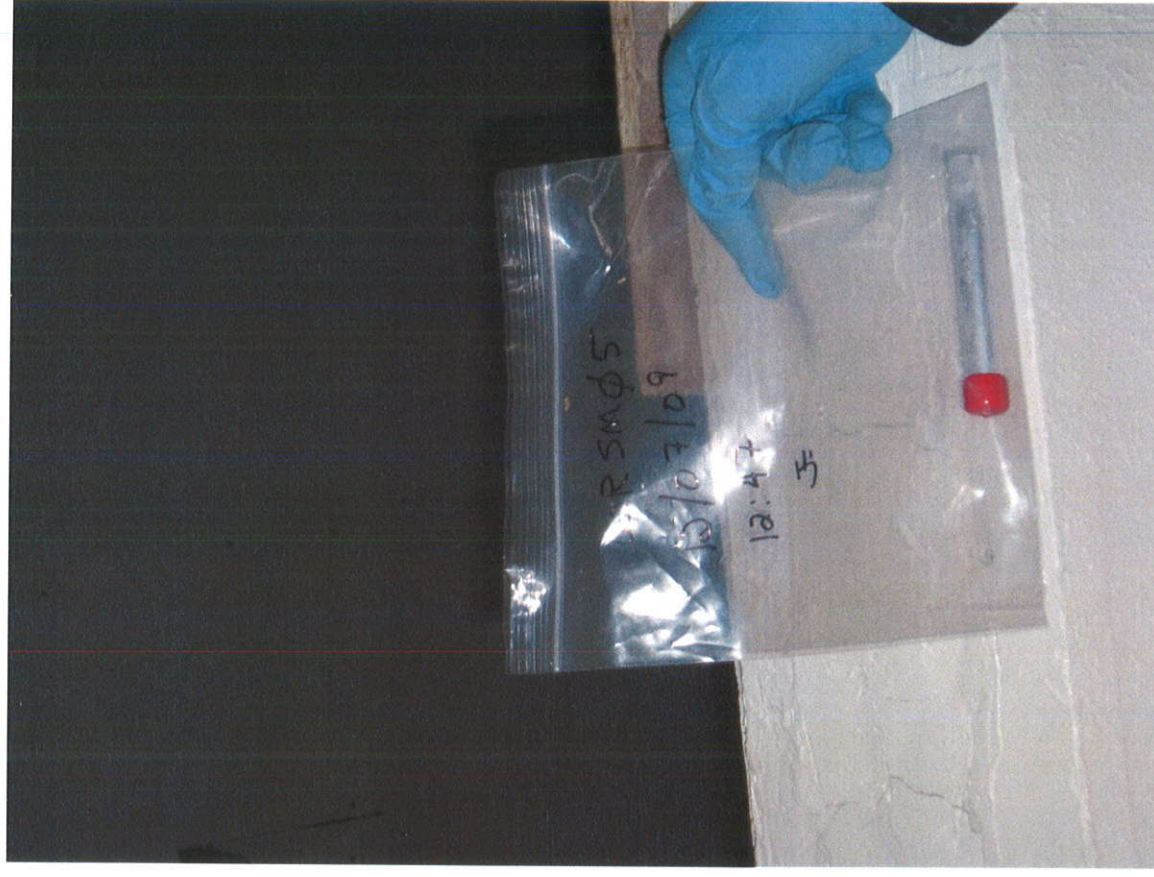
**PHOTO 12**

Collected suspected asbestos sample WRSM03 looking south.



**PHOTO 13**

Collected suspected asbestos sample WRSM04. Looking north.



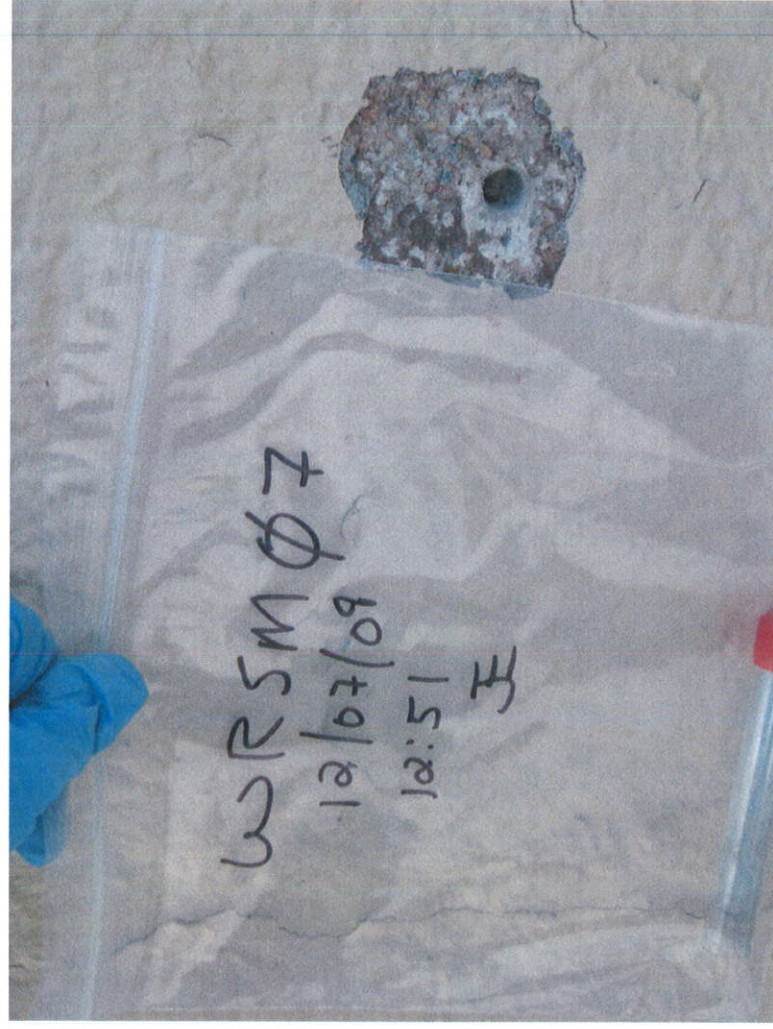
**PHOTO 14**

Collected suspected asbestos sample WRSM05. Looking north.



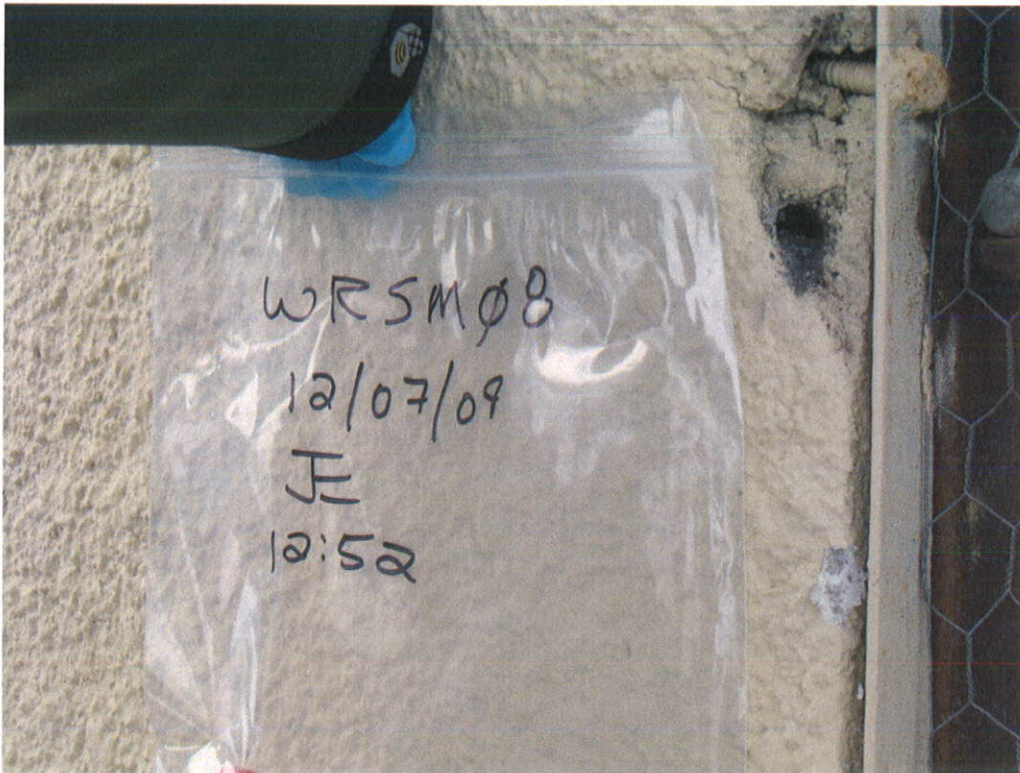
**PHOTO 15**

Collected suspected asbestos sample WRSM06 looking up.



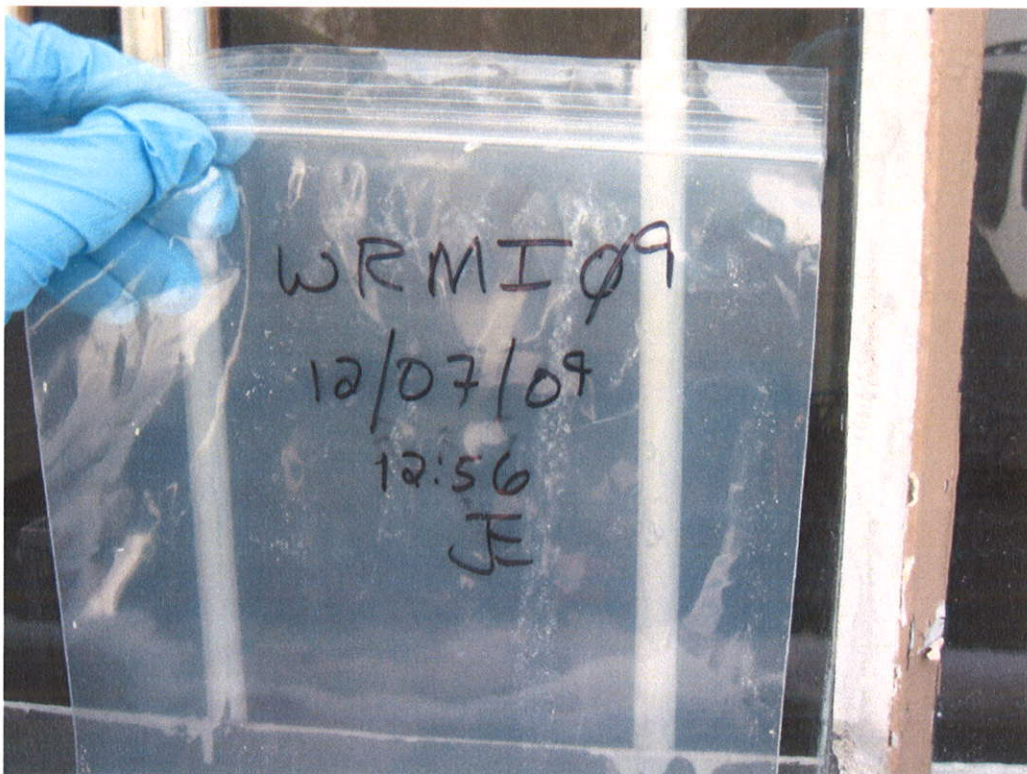
**PHOTO 16**

Collected suspected asbestos sample WRSM07. Looking up.



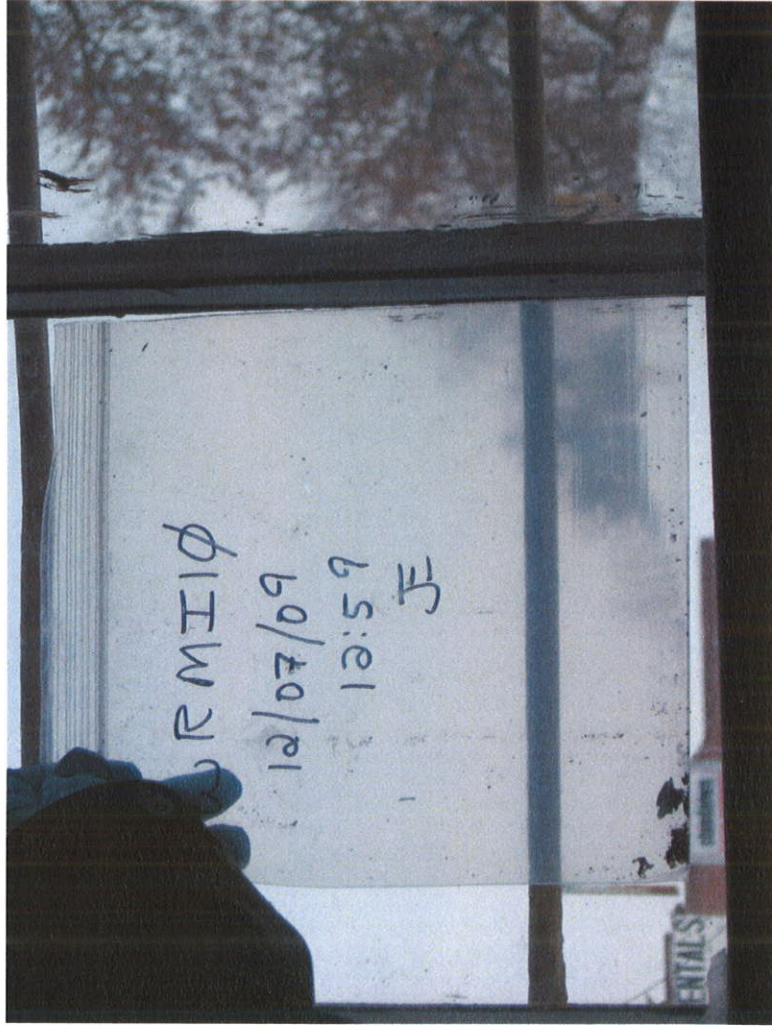
**PHOTO 17**

Collected suspected asbestos sample WRSMD8. Looking north.



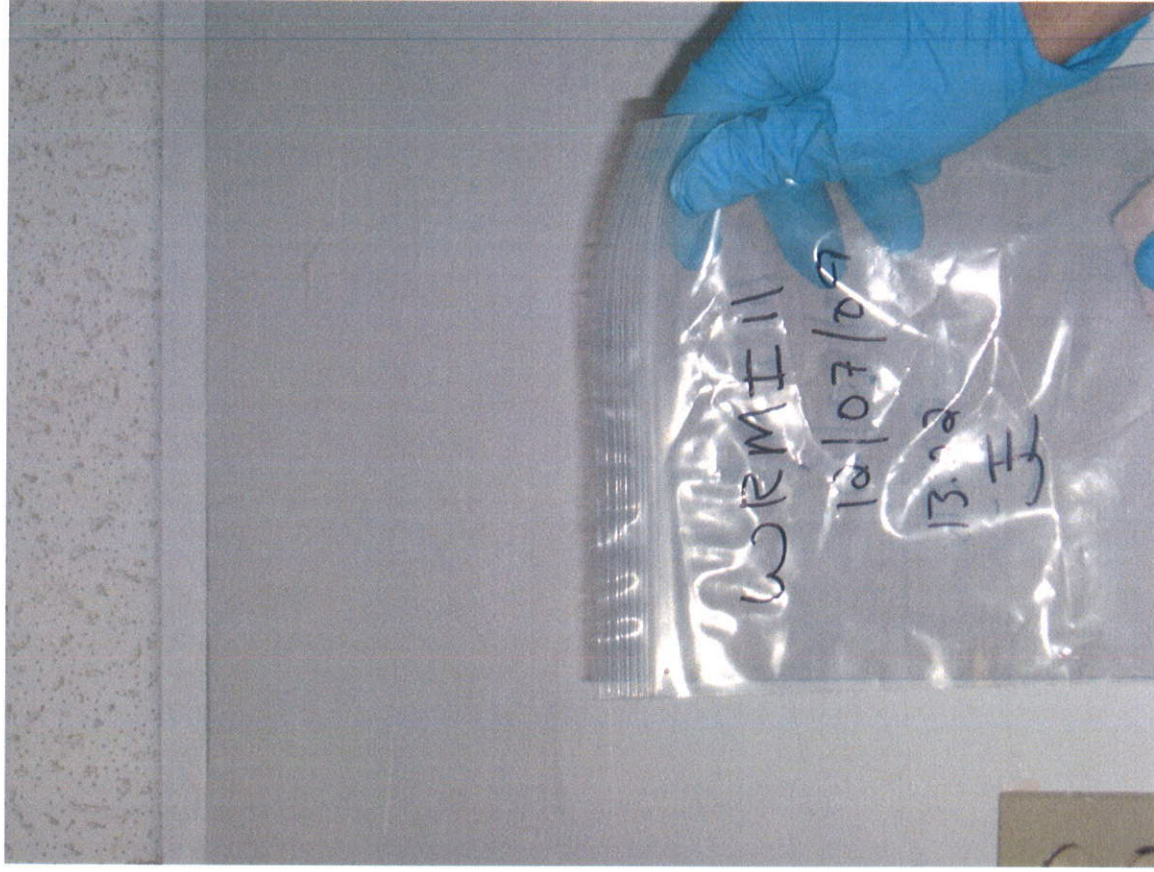
**PHOTO 18**

Collected suspected asbestos sample WRMI09. Looking west (window glaze)



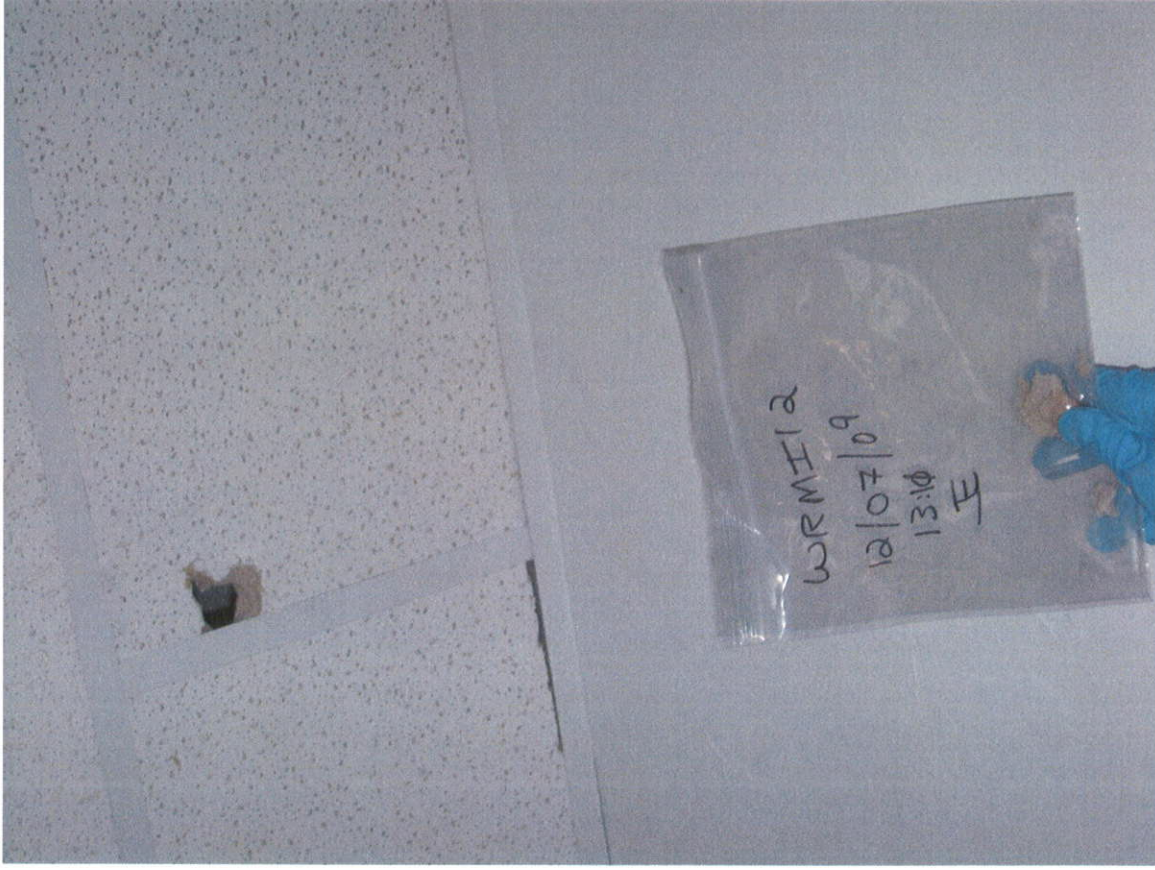
**PHOTO 19**

Collected suspected asbestos sample WRMI10. Looking east. (Window glaze.)



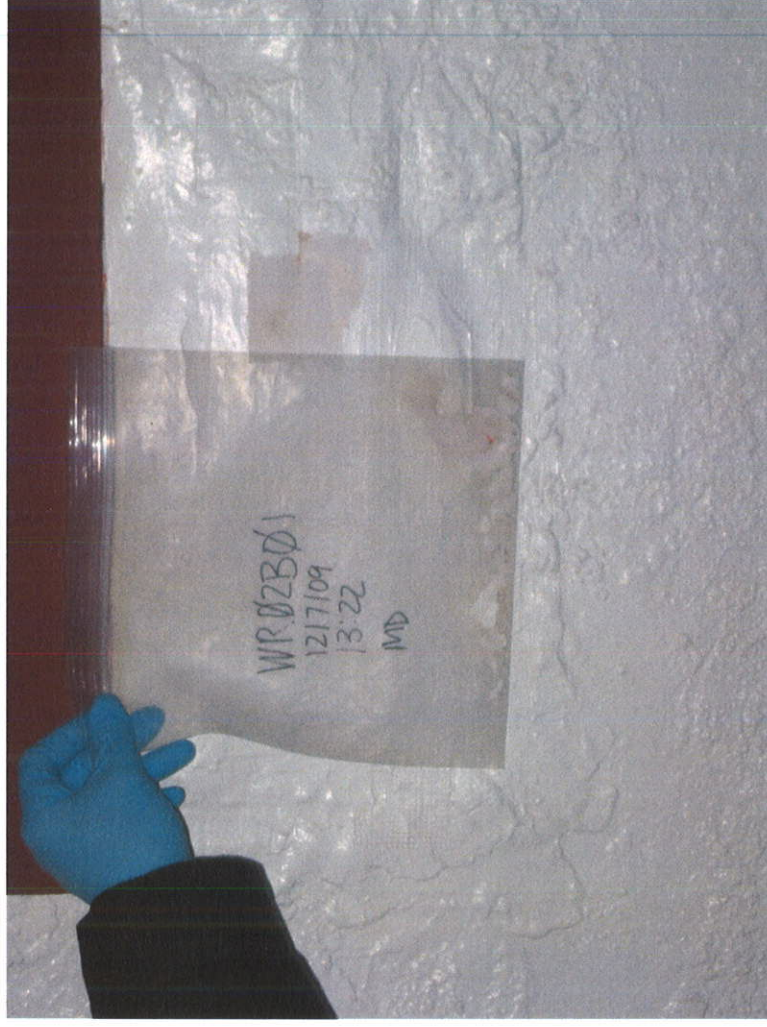
**PHOTO 20**

Collected suspected asbestos sample WRMI11. Looking up. (Ceiling tile.)



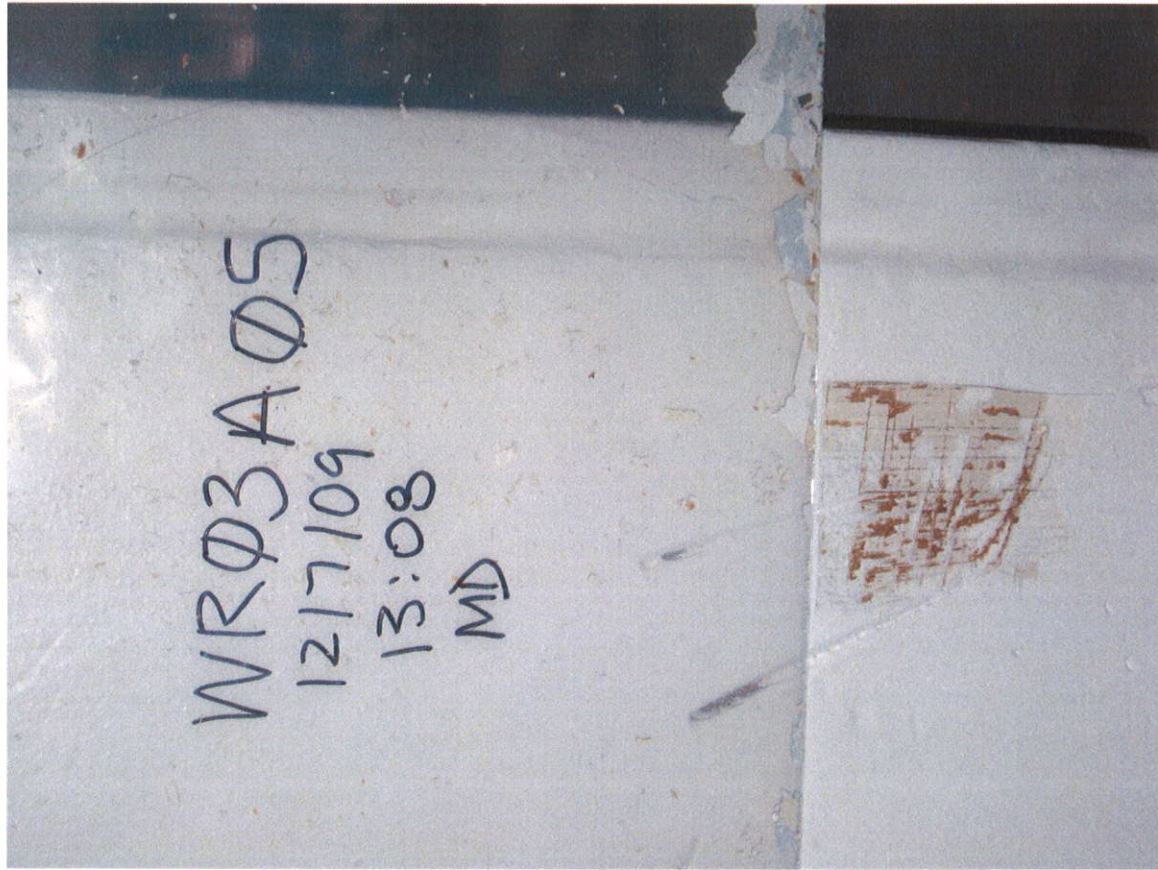
**PHOTO 21**

Collected suspected asbestos sample WRMI12. Looking up. (Ceiling tile.)



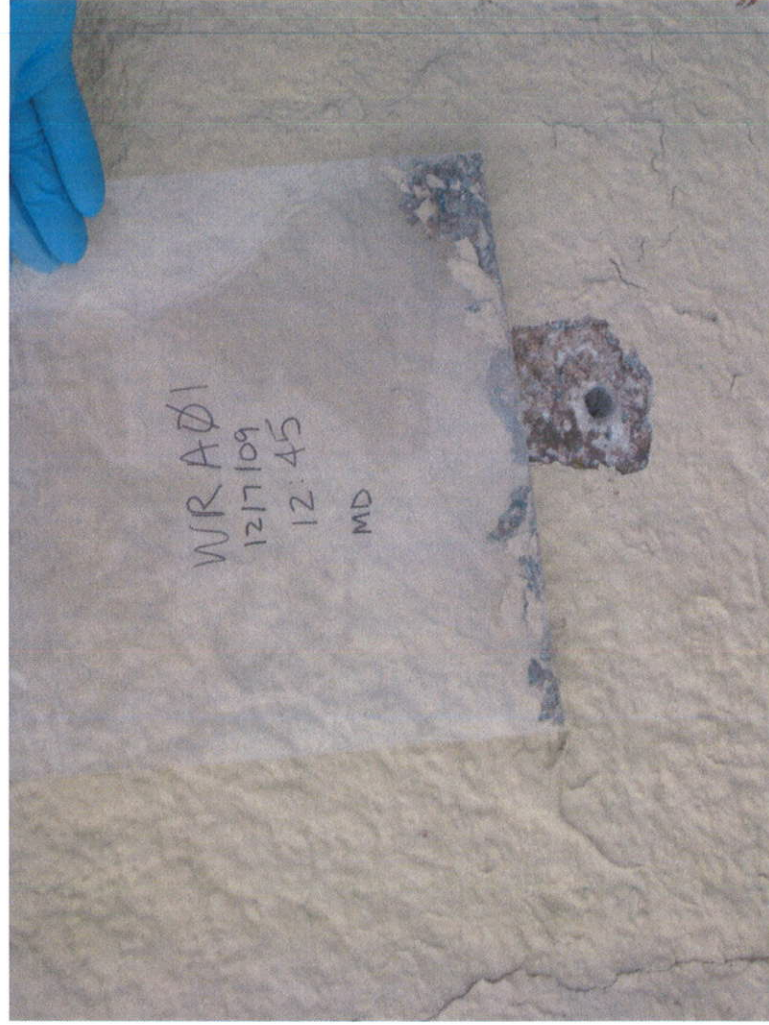
**PHOTO 22**

Collected suspected lead-based paint sample WR02B01. Looking south.



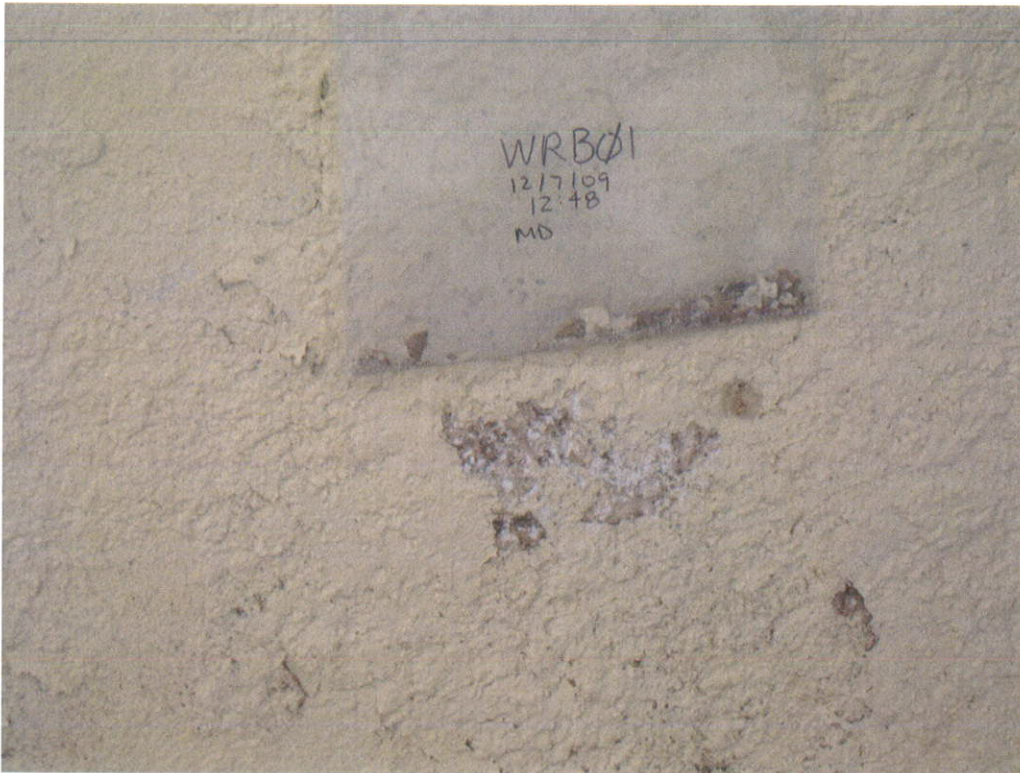
**PHOTO 23**

Collected suspected lead-based paint sample WR03A05. Looking west.



**PHOTO 24**

Collected suspected lead-based paint sample WRA01. Looking west.



**PHOTO 25**

Collected suspected lead-based paint sample WRB01. Looking north.



**PHOTO 26**

Collected suspected lead-based paint sample WRC01. Looking east.

## **APPENDIX B**

### **Laboratory Analytical Results**



# Reservoirs Environmental, Inc.

December 15, 2009

Laboratory Code: RES  
Subcontract Number: NA  
Laboratory Report: RES 183222-1  
Project # / P.O. #: 36548865  
Project Description: None Given

URS Operating Services  
1099 18th St. #710  
Denver CO 80202

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 183222-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr  
President

Analyst(s):  
Paul D. LoScalzo      Wenlong Liu  
Michael Scales      Rich Wegrzyn  
Anita Bridges      James Venendaal

P: 303-964-1986  
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV  
www.reilab.com

# RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0

Page 2 of 3

TDH Licensed Laboratory # 30-0136

**TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: RES 183222-1  
 Client: URS Operating Services  
 Client Project Number / P.O.: 36548865  
 Client Project Description: None Given  
 Date Samples Received: December 7, 2009  
 Analysis Type: PLM, Short Report  
 Turnaround: 3-5 Day  
 Date Analyzed: December 9, 2009

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
WRSM01	EM 494438	A	White/tan drywall w/ white paint	100		ND	20	80
WRSM02	EM 494439	A	White/tan drywall w/ white paint	100		ND	20	80
WRSM03	EM 494440	A	White compound w/ green paint	5		ND	TR	100
		B	White compound w/ white paint	7		ND	TR	100
		C	White plaster w/ brown paint	33		ND	TR	100
		D	Off-white granular plaster	55	Chrysotile	TR	TR	100
WRSM04	EM 494441	A	White compound w/ white paint	10		ND	TR	100
		B	White compound	90		ND	TR	100
WRSM05	EM 494442	A	White compound	5		ND	0	100
		B	White texture w/ white paint	95		ND	TR	100
WRSM06	EM 494443	A	White compound	20		ND	TR	100
		B	White texture w/ white paint	80		ND	TR	100
WRSM07	EM 494444	A	Gray/white granular plaster	100		ND	0	100
WRSM08	EM 494445	A	Tan/multi-colored paint w/ white granular plaster	10		ND	0	100
		B	Gray granular plaster	90		ND	TR	100
WRM09	EM 494446	A	White caulk w/ tan & white paint	15		ND	0	100
		B	Brown paint w/ white compound	85		ND	0	100

ND=None Detected  
 TR=Trace, <1% Visual Estimate  
 Trem-Ac=Tremolite-Actinolite  
 Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile)  
 if PLM results are ≤1%.

Data QA

# RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0  
TDH Licensed Laboratory # 30-0136

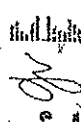
Page 3 of 3

**TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: RES 183222-1  
Client: URS Operating Services  
Client Project Number / P.O.: 36548865  
Client Project Description: None Given  
Date Samples Received: December 7, 2009  
Analysis Type: PLM, Short Report  
Turnaround: 3-5 Day  
Date Analyzed: December 9, 2009

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non-Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
WRMI10	EM 494447	A	White paint w/ white compound	30		ND	0	100
		B	White caulk w/ tan paint	70		ND	0	100
WRMI11	EM 494448	A	Tan/white ceiling tile	100		ND	60	40
WRMI12	EM 494449	A	Tan/white ceiling tile	100		ND	60	40

ND=None Detected  
TR=Trace, <1% Visual Estimate  
Trem=Act=Tremolite-Actinolite  
Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile)  
if PLM results are ≤1%.

  
Data QA

Due Date: 12-10-12 14  
Due Time: 3:35pm

**RESERVOIRS ENVIRONMENTAL, INC.**  
5801 Logan St. Denver, CO 80216 • Ph: 303-564-1986 • Fax: 303-477-4275 • Toll Free: 888-RES-ENV  
Pager: 303-508-2056

RES 183222  
Page 1 of 1

INVOICE TO: (IF DIFFERENT)

Company: IIRIS Operating Services	Contact: Jeremiah Evin	CONTACT INFORMATION:
Address: 1099 18th Street, Suite 710	Phone: 780-810-0768	
City: Denver, CO 80241	Fax:	
Project Number and/or P.O. #: 3654865	Cell/pager:	
Project Description/Location:	Final Data Deliverable Email Address: Jeremiah.Evin@URSCorp.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm	VALID MATRIX CODES	LAB NOTES:
PLM/PCN/TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD	Air = A Bulk = B	
(Rush PCM = 2hr, TEM = 6hr.)	Dust = D Paint = P	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 6pm	Soil = S Wipe = W	
Metal(s)/Dust RUSH 24 hr. 3-5 Day	Drinking Water = DW	
RCRA 8 / Metals & Welding	Waste Water = WW	
Fume Scan / TCLP	Other = O	
Organics	**ASTM E1792 approved wipe media only**	

Special Instructions: <b>Prepessive every 2 samples!!!</b>	REQUESTED ANALYSIS	OTHER
Client sample ID number (Sample ID's must be unique)	PCN - AHERA, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	ORGANICS - BTEX, MTBE, B260, GRO, DRO
1 WRS M 01 7*	PCN - 7400A, 7400B, OSHA	
2 WRS M 02 7*	PCN - 7400A, 7400B, OSHA	
3 WRS M 03 7*	PCN - 7400A, 7400B, OSHA	
4 WRS M 04 7*	PCN - 7400A, 7400B, OSHA	
5 WRS M 05 7*	PCN - 7400A, 7400B, OSHA	
6 WRS M 06 7*	PCN - 7400A, 7400B, OSHA	
7 WRS M 07 7*	PCN - 7400A, 7400B, OSHA	
8 WRS M 08 7*	PCN - 7400A, 7400B, OSHA	
9 WRS M 09 7*	PCN - 7400A, 7400B, OSHA	
10 WRS M 10 7*	PCN - 7400A, 7400B, OSHA	
11 WRS M 11 7*	PCN - 7400A, 7400B, OSHA	
12 WRS M 12 7*	PCN - 7400A, 7400B, OSHA	
13 WRS M 13 7*	PCN - 7400A, 7400B, OSHA	

Number of samples received: (Additional samples shall be listed on attached long form.)  
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: Jeremiah Evin	Date/Time: 12/7/09	Sample Condition: On Ice Sealed Intact
Laboratory Use Only	Date/Time: 12-7-09 3:35p	Temp. (F°) Yes / No Yes / No Yes / No
Received By: Jeremiah Evin	Contact: Jeremiah Evin	Page Phone Email Fax Date
Results:	Contact: Jeremiah Evin	Page Phone Email Fax Date

Submitted by: LIRS Op. Services, JE

[illegible]



December 9, 2009

Laboratory Code: RES  
Subcontract Number: NA  
Laboratory Report: RES 183222-2  
Project # / PO #: 36548865  
Project Description: None Given

URS Operating Services  
1099 18th St. #710  
Denver CO 80202

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the American Industrial Hygiene Association, Lab ID 101533 - Accreditation Certificate #480. The laboratory is currently proficient in both PAT & ELPAT programs respectively.

Reservoirs has analyzed the following sample(s) using Atomic Absorption Spectroscopy (AAS) / Atomic Emission Spectroscopy - Inductively Coupled Plasma (AES-ICP) per your request. Reported sample results were not blank corrected. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

RES 183222-2 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr  
President

P: 303-964-1986  
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV  
www.reilab.com

# RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100

Denver CO 80216

## TABLE ANALYSIS: LEAD IN PAINT

RES Job Number: RES 183222-2  
Client: URS Operating Services  
Client Project Number / P.O.: 36548865  
Client Project Description: None Given  
Date Samples Received: December 7, 2009  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 3-5 Day  
Date Samples Analyzed: December 8, 2009

Client ID Number	Lab ID Number	Reporting Limit (%)	LEAD CONCENTRATION (%)
WRA01	EM 494450	0.003	1.016
WRB01	EM 494451	0.003	0.634
WRC01	EM 494452	0.004	BRL
WR03A05	EM 494453	0.003	0.026
WR02B01	EM 494454	0.003	BRL

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

Due Date: 12-10-12:14  
Due Time: 3:35pm



# REILAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303-964-1888 • Fax 303-477-4275 • Toll Free 866-RES-ENV

Pager: 303-508-2098

RES 183222  
- 1 PLM - 2 MM  
Page 1 of 1

## INVOICE TO: (IF DIFFERENT)

Company:	URS Operating Services	Contact:	Jeremiah Evin
Address:	1099 18th Street, Suite 710	Phone:	780-810-0768
	Denver, CO 80241	Fax:	
		Cellpager:	
Project Number and/or P.O. #:	36548865	Final Data Deliverable Email Address:	Jeremiah.Evin@URS Corp.com
Project Description/Location:			

## CONTACT INFORMATION:

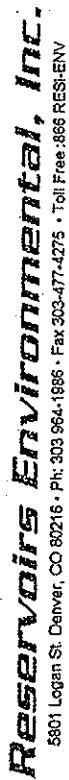
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PUM/PCM/TEM _____ RUSH (Same Day) _____ PRIORITY (Next Day) <input checked="" type="checkbox"/> STANDARD (Rush PCM = 2hr, TEM = 8hr.)		REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Metals/Dust _____ RUSH _____ 24 hr. <input checked="" type="checkbox"/> 3-5 Day		PCM - 7400A, 7400B, OSHA		Air = A		Bulk = B	
RCRA 8 / Metals & Welding		SEM - quant, Micro-vac, ISO-Indirect Preps		Dust = D		Paint = P	
Fume Scan / TCLP		TEM - AHERA, Level II, 7402, ISO, +/-, Quant		Soil = S		Wipe = W	
Organics		DUST - Total, Respirable		Drinking Water = DW		Waste Water = WW	
Special Instructions: <u>progressive every 2 samples!!!</u>		OTHER -		Other = O			
Client sample ID number (Sample ID's must be unique)		METALS - Analyte(s)		Date Collected mm/dd/yyyy		Time Collected hh:mm:ss	
1 WRS M 017*		RCRA 8, TCLP, Welding Fume, Metals Scan		12/7/10		12:30	
2 WRS M 027*		ORGANICS - BTEX, MTBE, D260, GRO, DRO		12/7/10		12:35	
3 WRS M 037*				12/7/10		12:40	
4 WRS M 047*				12/7/10		12:45	
5 WRS M 057*				12/7/10		12:47	
6 WRS M 067*				12/7/10		12:49	
7 WRS M 077*				12/7/10		12:51	
8 WRS M 087*				12/7/10		12:52	
9 WRS M 097*				12/7/10		12:56	
10 WRS M 107*				12/7/10		12:59	
11 WRS M 117*				12/7/10		13:02	
12 WRS M 127*				12/7/10		13:10	
13 WRS M 137*				12/7/10		13:45	

Number of samples received: \_\_\_\_\_

(Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis constitutes an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By:	Jeremiah Evin	Date/Time:	12/7/10	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only				Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By:	Ron Calabrese	Date/Time:	12-7-09 3:35p	Carrier:			
Results:	Contact	Page	Phone	Email	Fax	Date	Time
	Contact	Page	Phone	Email	Fax	Date	Time



5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free: 866 RESI-ENV

RES Job # 183222

Page 2 of 2

Submitted by:

URS Op. Services, EE

[illegible]

## **APPENDIX C**

### **Lead-Based Paint Testing Data Records**

# LEAD-BASED PAINT (LBP) TESTING DATA SHEET

Page 1 of   

Address 7100 W 38<sup>th</sup> Avenue

Date 12/07/2009

XRF Serial No. 1000V X 10531 Inspector Name                     

Signature                     

Sample ID#	Substrate	Color	Paint Condition	XRF Reading	Correction Value	Result	Classification (pos, neg, inc)	Lab Result	Units		Final Classification
									mg/cm <sup>2</sup>	%	
SRM2570	std.	white	N/A	0.00	±0.00		Neg				
SRM2571	std.	yellow	N/A	3.75	±0.50		Pos				
SRM2572	std.	orange	N/A	1.68	±0.31		Pos				
SRM2573	std.	red	N/A	1.19	±0.17		Pos				
SRM2574	std.	gold	N/A	0.76	±0.13		Neg				
SRM2575	std.	green	N/A	0.34	±0.08		Neg				
WR02A01	plaster	white	fair	0.00	±0.00		Neg				
WR02A05	wood	white	fair	0.00	±0.00		Neg				
WR02A06	wood	white	fair	0.00	±0.00		Neg				
WR02A07	wood	red	fair	0.00	±0.00		Neg				
WR02B01	plaster	white	fair	0.00	±0.00		Neg				
WR02B02	wood	red	fair	0.00	±0.00		Neg				
WR02C01	plaster	white	fair	0.00	±0.00		Neg				
WR02D01	plaster	white	fair	0.00	±0.00		Neg				
WR03A01	plaster	white	fair	0.00	±0.00		Neg				
WR03A05	wood	white	fair	0.33	±0.15		Neg				
WR03A06	wood	white	fair	0.00	±0.00		Neg				
WR03B01	plaster	white	fair	0.00	±0.00		Neg				
WR03B07	wood	red	fair	0.00	±0.00		Neg				
WR03C01	plaster	white	fair	0.00	±0.00		Neg				
WR03C02	wood	red	fair	0.00	±0.00		Neg				
WR03D01	plaster	white	fair	0.00	±0.00		Neg				
WR04A01	drywall	white	fair	0.00	±0.00		Neg				
WR04A05	metal	white	fair	0.03	±0.04		Neg				
WR04A06	wood	white	fair	0.00	±0.00		Neg				
WR04B01	drywall	white	fair	0.00	±0.00		Neg				
WR04C01	drywall	white	fair	0.00	±0.00		Neg				
WR04D01	drywall	white	fair	0.00	±0.00		Neg				

\*

